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THE

HISTORY

AND

PRACTICE

OF

VACCINATION.

BY JAMES MOORE, 1763 - 1834

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"Cum ea, quæ quasi involuta fuerunt, aperta sunt, tum inventa dicuntur."
LUCULLUS, CICER.

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THE

HISTORY AND PRACTICE

OF

VACCINATION.

CHAP. I.

THE DISCOVERY.

The discovery of a mode of preventing the Small Pox is one of those splendid events which reflect lustre on the English nation: and it must be interesting to learn, whether this was stumbled upon by chance, or unfolded by ingenuity.

Dr. Jenner is the claimant, and men of letters are his jury; their verdict alone can give him fame; and before they decide they will strictly inquire, what first suggested the idea to his mind, what means he devised to investigate the truth, what obstacles he surmounted, and finally what is the value of the discovery.

All these questions will be elucidated by a simple narration of facts.

Edward, a younger son of the Rev. Stephen Jenner, Vicar of Berkeley, in the county of Gloucester, was born in the year 1749. He received a good provincial education at Cirencester; and being intended for the medical profession, was bound apprentice to the first surgeon at Sodbury.

About the year 1768, during his apprenticeship, he learnt that there was a report, rife in the dairies, of a distemper named the Cow Pox, which infested the teats of milch cows, and infected the hands of the milkers, being sometimes a preventive of the Small Pox. As milkers were often applying for remedies to cure festering sores on their chopt fingers, Mr. Jenner had the opportunity of observing them; and he was assured that they were acquired from the cows, who had similar sores on their teats.

It was likewise a fact of public notoriety, that the peasants in that county, even when repeatedly inoculated, often resisted the infection of Small Pox. This singular circumstance, together with the foregoing report, made a considerable impression on his youthful mind. At the age of one-and-twenty, he went to London to prosecute his studies, and became pupil to John Hunter, who was rising into celebrity. This surgeon, endowed with an extraordinary capacity, was then pursuing knowledge with ardour, and observing nature with the piercing

eye of genius. Even under such a roof, dull and lively dunces profited little; while acute and grave students reaped advantages proportioned to their faculties and application: but the solid precepts and ingenious remarks, which were sprinkled in the conversation of Hunter; together with such an example of unremitting exertion, strained to the bent the congenial intellect of Jenner; and this fortunate, early intercourse may have largely contributed to his future renown.

This conclusion is, however, only a presumption: for though the pupil frequently mentioned, in conversations with his sagacious master, the reports concerning the Cow Pox in the dairies of Gloucestershire; yet as the facts were improbable, the accounts vague, and their authorities weak, they were disregarded.

Hunter, however, soon discovered the superior capacity of Jenner, and recommended him to aid Sir Joseph Banks, in forming a scientific arrangement of the curiosities and productions, which he had brought from the islands in the South Sea.

And when a second voyage of discovery was projected, Jenner was solicited to be one of the literary associates in that enterprise. This was declined, and the project was afterwards abandoned: but the friendship of Hunter and Jenner continued for life; and they occasionally

corresponded on subjects of natural history, to which they were both devoted. Indeed, at one period, Mr. Hunter solicited Jenner to become his partner in business. But the love of a country life, attachment to the place of his birth, and, above all, affection for his elder brother, who had brought him up, induced him to resist this flattering offer; which had it been accepted, would have occasioned him to lose the opportunity of searching for those laurels, which he gathered afterwards in the shades of Gloucestershire.

After Jenner had finished his course of studies in London, he established himself as a surgeon at Berkeley; and as a recreation during the intervals of business, indulged in those philosophical pursuits for which he had a strong predilection; and amongst the rest commenced an inquiry respecting the Cow Pox.

It was not long before he found a number of persons who had never had the Small Pox, and who resisted that infection, both when exposed to it, by intercourse with the diseased, and when repeatedly inoculated. All of them attributed this insusceptibility to their having had the Cow Pox. Yet the older farmers assured him, that this notion was of no very long standing; for they had never heard of it in their younger days.

Jenner conjectured, that as the practice of inoculating the Small Pox was also of recent

date in that part of the country, this might account for the observation not having been made earlier.

He next heard of a great many exceptions to the opinion, and he saw several creditable persons who assured him that they had had the Cow Pox, yet afterwards contracted the Small Pox. The more he inquired, the more examples of this were found.

Having applied to the medical gentlemen of the county for authentic intelligence, and consistent statements; they all agreed in declaring from experience, that the Cow Pox was only an occasional, and a very uncertain preventive of Small Pox.

All former investigators had been arrested by the opposing facts; but Jenner was not so easily disheartened: he resolved to go himself into the dairies, to examine both the distempered cows and the milkers, and to scrutinize accurately every peculiarity of the disease.

Having formed this resolution, he first found out, that the cows were subject to several kinds of eruptive complaints on their teats; some of which were infectious and others not; but that all which excited sores on the hands of the milkers, were indiscriminately called the Cow Pox. It seemed probable to Jenner, that only one of these disorders could possess the preventive power in question; and

he at length aseertained the peculiar eruption to whieh that property belonged.

He then entertained sanguine hopes, that by this discrimination he should be able to reeoncile the discordant faets; for he suspected that the belief of the Cow Pox being only an oeeasional preventive of Small Pox, might be owing to eonfounding different maladies under the same name.

In this expectation he was however disappointed: for, to his great mortification, he found several examples of milkers, who were seized with the Small Pox, after having contracted sores on their hands from the genuine Cow Pox. These most vexatious facts he did not credit lightly; but having seen several decisive instances, he was compelled to admit them; and for some time all his hopes of being able to employ the Cow Pox for any useful purpose were extinguished. Indeed, even now, when the seeret is known, whoever reflects upon this perplexing eircumstance must be astonished, that it did not prove an insurmountable barrier to all further investigation.

But Jenner frequently revolved all the phenomena in his mind; and it seemed to him a strange anomaly in nature, that there should be this singular diversity in human constitutions; that the same cause should render one portion of mankind invulnerable to the Small Pox, and should have no such effeet upon another. By

exerting himself to clear up this mystery, he at length detected some new peculiarities of the Cow Pox; the attentive consideration of which enabled him to solve every material difficulty. On a minute inspection of the sores produced by the genuine Cow Pox on the hands of different milkers, Jenner observed, that their appearance and progress varied remarkably in different persons. In some instances the malady preserved the character of the regular Cow Pox, which was now familiar to him; while in others it appeared like a common ulcer. By carefully tracing back these cases to their commencement, he found that the difference of the disease on the milkers, depended upon the period of the disease on the infecting cow. For when a milker was infected by a cow during an early stage of the malady, he contracted the regular Cow Pox; but those milkers who were infected even by the same cow at a more advanced period of the complaint, acquired upon their hands ordinary ulcers.

This latter complaint was usually caught by breaking down the crusts on the teats of the infected cows in milking them; it was generally more tedious in healing, and accompanied with more constitutional derangement, than the genuine Cow Pox.

These observations led him to suspect, that the power of preventing the Small Pox might

exist in the malady which was contracted at one period only: and after much investigation, he at length ascertained, that the milkers who acquired the Cow Pox from vesicles on the teats of the cows, while advancing to maturity, were secured from the Small Pox: while those contaminated by cows in an advanced period of the disease remained susceptible of the Small Pox. In fine, from a multitude of cases he was enabled to draw these conclusions; that the property of preventing the Small Pox appertained only to one of those diseases which were vulgarly denominated the Cow Pox; and that this power principally resided in the liquid secreted during the early stages of that disease. Jenner perceived that these opinions corresponded with remarks which had been made on the Small Pox; as the liquid most active for variolous inoculation is that which is first secreted; but the thick matter of pustules which have crusted, though it may excite local inflammation and suppuration, yet frequently fails of producing the real Small Pox.

Jenner was thus continually meditating upon the facts which he had ascertained, while the frequent occurrence at that time of the Cow Pox in the dairies in Gloucestershire, afforded him opportunities of multiplying his experiments and advancing his knowledge; for he had long been struck with the idea that it might

be possible to propagate the Cow Pox by inoculation, not only from the cow to the human subject, but also from man to man. And as the complaint, when transferred from the cow to the milker, possessed the quality of preventing the Small Pox; it seemed probable that this quality might remain, even when propagated in succession from one human being to another.

Being powerfully excited by this expectation, he watched for an opportunity of making a series of decisive experiments to ascertain the truth. At length, in the spring of the year 1796 *, the Cow Pox having broken out in a farmer's dairy near Berkeley, Sarah Nelmes, a milk-maid, caught the infection in one of her hands, which had been accidentally scratched by a thorn. Jenner, who had then acquired a correct knowledge of the appearance of the malady, perceived that it was the genuine disease; and he selected a healthy boy named Phipps, who had not had the Small Pox, on whom to make the first trial of inoculating one human being from another with the Cow Pox virus.

Accordingly, on the 14th May 1796, Jenner punctured one of the vesicles on the hand of Sarah Nelmes, and taking a little of the transparent lymph on the point of a lancet, he in-

* An Inquiry into the Causes and Effects of the Variolæ Vaccinæ, &c. By Edward Jenner, M. D. F. R. S page 28.

serted it into the boy's arm by two superficial incisions, which barely penetrated the surface of the skin. He watched the event which was to decide the completion or extinction of his hopes with trembling anxiety; and saw with delight the incisions gradually inflaming, and assuming nearly the appearance of a part inoculated with variolous matter. On the seventh day the boy complained of uneasiness in the armpit, and had a slight headach; he was also perceptibly indisposed, and spent the night with some degree of restlessness: but on the following day he was perfectly well. Jenner perceived with pleasure, that the similarity between the effects of this new species of inoculation, and of the variolous, was striking; for Phipps had been affected with constitutional symptoms of the same kind, and at the same period, with those which commonly take place in very mild cases of inoculated Small Pox.

The inflammation and the changes in the appearance of the incised part, all bore a considerable resemblance to the local effects of ordinary inoculation; yet some differences were remarked: for, after the latter operation, the part suppurates; and when the pustule desiccates, a yellow or amber-coloured scab is formed: whereas Jenner observed, that in Phipps's arm the liquid secreted appeared at first to be limpid, and the crust finally assumed a dark hue.

The efflorescence also which spread around the incisions, he thought, had more of an erysipelatous appearance than is usual after variolous inoculation. It is remarkable, that even in the present state of knowledge little can be added to the concise description given of his first case; which terminated by the crusts dropping off, and leaving permanent eschars.

It was next to be ascertained, whether or not this operation had rendered the boy insusceptible of the Small Pox. The similarity of the local appearances to those which follow variolous inoculation raised Jenner's hopes, while the slightness of the constitutional indisposition depressed him with fears.

To determine a point so important to mankind, he inoculated this boy on the first of July following with Small Pox matter; and, to render the experiment as decisive as possible, several punctures and slight incisions were made on both arms, which were filled with variolous pus: yet Jenner had the inexpressible satisfaction to observe, that no other effect was produced, than such a slight and transient inflammation as usually ensues after the inoculation of persons who had already had the Small Pox.

Several months afterwards he repeated the inoculation, but no sensible effect was produced upon the boy's constitution. This case was then complete, which was the first example of the

vaccine fluid having been transferred from one human being to another.

Those who feel in their breasts the love of mankind, and the passion for fame, will conceive the transports with which this experiment filled the soul of Jenner. He became impatient to finish his work, and to make such a number of experiments as should be deemed conclusive; but a long delay unavoidably ensued, from the Cow Pox having disappeared from the dairies. It recurred, however, in the spring of the year 1798, when, from the wetness of the early part of the season, many of the farmers' horses were affected with sore heels, and soon afterwards the Cow Pox broke out in several of the dairies, affording Jenner the opportunity of resuming his researches.

On the 16th of March he vaccinated William Summers with virus taken from the teat of an infected cow. This boy was seized on the sixth day with feverish symptoms, and vomited; a slight indisposition continued till the eighth day, when he appeared quite well. The progress of the local inflammation was nearly similar to that which had been observed in the case of Phipps; which corroborated the presumption, that the virus taken from an infected cow, possessed the same property as that from an infected milker.

The vaccine lymph was next transferred from the arm of Summers to William Pead;

and the latter sickened on the seventh day. The constitutional symptoms and the local inflammation in this last case had so striking a resemblance to those subsequent to variolous inoculation, that Jenner was induced to examine the whole body, to see if there was any eruption on the skin; but none appeared. From William Pead several children and adults were likewise vaccinated; and from one of those, the lymph was transferred to several others, among whom was his own son, a boy eleven months old; who however did not contract the infection.

In detailing the effects in these cases, Jenner appears to have had some apprehensions, lest the local inflammation should exceed its due bounds, and he mentions some attempts he made to check it. The means he employed are now known to have been superfluous; but they mark his extreme caution, and how carefully he attended to the safety of his patients, while proceeding in a new and unexplored path.

A number of these persons were next inoculated with variolous pus, which they resisted, though Jenner deemed it superfluous to put them all to that test. And he ascertained by these experiments, that the vaccine lymph, in passing through a series of five individuals, retained the property of rendering the vaccinated insusceptible of the contagion of Small Pox.

From these trials he was led to conceive,

that the secretion of vaccine lymph endowed with this beneficial property, might be perpetuated by vaccinating in succession an indefinite number of human beings.

During the course of the above investigation, Dr. Jenner entered also into an inquiry of a very curious kind, and quite unexampled in pathological researches. He attempted to trace back another link in the chain of causes, by searching for the source of the Vaccine; which he had early suspected did not originate in the cow.

His success in this obscure research may encourage others to attempt similar investigations; and possibly may lead to future discoveries of the causes, and modes of preventing other diseases.

Jenner had noticed, that as long as cows had liberty to fulfil the maternal office by suckling their calves, they were exempt from the Vaccine. For this malady never arose spontaneously in the cow, but seemed to be an occasional effect of milking.

He also learnt, that the Vaccine was altogether unknown in most parts of England, and of other countries: and that even in Gloucestershire, where the malady was endemial, it frequently disappeared from the dairies for months, and sometimes for years. These facts evinced, that simply milking the cows was not the cause of the malady; but that it was produced by some

peculiar coincidence accompanying that process. He also remarked, that this distemper never occurred in dairies, where the cows were exclusively milked by the cleanly dairy-maids; but only in those dairies where it was the practice for some, or the whole of the cows to be milked by less delicate hands. It is the custom in Gloucestershire, for the farmers' men principally to milk the cows; and the same servants frequently tend the horses, and wash and dress them even when sick. Dr. Jenner had been struck with the peculiar appearance of ulcers, which sometimes broke out on the hands of the men-servants; and which, they said, they had caught from washing the heels of horses affected with a distemper called the grease. These sores were of a more virulent nature than vaccine sores; and were accompanied with greater constitutional derangement; yet they still bore some resemblance to them. In observing the occurrences of various farms, he also remarked, that the cows remained free from the Vaccine as long as the horses were in health; but acquired that complaint very soon after the horses were attacked with the grease. This coincidence took place so often, that he became persuaded of the virus from the grease of the horse being the source of the Vaccine in the cow: which recalled to his mind, that country surgeons are often foiled in their attempts to inoculate black-

smiths and farriers, with the Small Pox; for these men frequently resist the infection altogether, or are so slightly affected, as to leave it doubtful whether or not they have contracted it. From all which he was led to suspect, that the grease, as well as the Vaccine, might be a preventive of the Small Pox. To ascertain this, Dr. Jenner inoculated with Small Pox matter two persons who had neither had the Small Pox, nor the Vaccine; but whose hands had been infected with ulcers from the grease. Both these persons resisted the contagion; but a third person under similar circumstances caught the casual Small Pox; the malady was, however, most singularly mild, as if it had been mitigated by the effects of the grease.

In order to prosecute this subject further, he inoculated a boy with matter taken from a sore on a man's hand, which had been excited by the virus of the grease.

The infection took, and the appearance and symptoms of this equine disease were hardly distinguishable from the Vaccine. It was intended to have ascertained by variolous inoculation, whether this boy was rendered insusceptible of the Small Pox; but he unfortunately caught a fever and died.

Although Jenner was prevented by this accident, from completing the experiment; yet, from the facts that have been mentioned, and from a

multitude of occasional observations, he was quite convinced that a morbid liquid secreted by the skin of the horse, and commonly issuing from the heel when distempered by the grease, is the original source of the Vaccine; and the Gloucestershire farmers having been made acquainted with this, take such precautions, that the Vaccine has since become a rare malady in the dairies.

The above is a summary of the primitive experiments made by Dr. Jenner to ascertain the properties and the origin of the Vaccine, and on the result of which he founded the plan of extirpating the Small Pox from the world.

CHAP. II.

THE PROMULGATION OF THE VACCINE IN ENGLAND, AND THE INVIDIOUS CONDUCT OF SOME EARLY PROSELYTES.

From the time in which Jenner, when a youthful medical student, first heard the country rumours respecting the Cow Pox, until the period in which he completed the discovery of Vaccination, he never concealed his progressive knowledge; but openly divulged it to his friends, and even to medical societies. The original report he had mentioned to Mr. Hunter, in the year 1770, when he resided with him; and in two years after, when on a visit to London *, he showed him a drawing of a finger affected with the Vaccine; and proposed at that time Vaccination as a substitute for variolous inoculation. In consequence of this disclosure †, a pupil of Mr. Hunter's noticed in

* Evidence at large as laid before the Committee of the House of Commons, &c. London, 1803. Vide pages 1, 11, 135.

† Queries concerning Inoculation, by Dr. Beddoes, 1795. Observations on morbid Poisons, by J. Adams, 1795, p. 156. History of Inoculation, by Woodville, A.D. 1796, Introduction, note, p. 3.

a publication, that the Cow Pox was a preventive of Small Pox: this was copied by others, and was also mentioned in medical lectures in London.

Notwithstanding all this publicity, Jenner was in no point anticipated, and his opinions were commonly regarded as the reveries of a rural enthusiast. It may therefore be presumed, that it required his peculiar cast of character to perfect the discovery: and it is certain, that if, by an alteration in the management of the dairies, the Vaccine had vanished, the discovery would have become impossible; and the Small Pox might have continued its ravages to the end of the world.

In June 1798, Dr. Jenner being satisfied with the result of his experiments, resolved to lay them before the public. And as he was a Fellow of the Royal Society, and accustomed to divulge his observations in science through that channel, he transmitted his manuscript to a correspondent who was in the confidence of Sir Joseph Banks the President; and requested that it should be laid before him, not doubting that it would soon be printed in the Philosophical Transactions. Jenner had already contributed several articles to that celebrated collection; in one of these he had fully disclosed the natural history of the cuckow, which marked him out for a man of originality: and as none of his former

papers on subjects of mere philosophical curiosity had been rejected; he naturally expected, that an Essay promulgating a discovery of vast utility, would be favourably received. But the perusal of his experiments produced no conviction; and he received in reply a friendly admonition that, as he had gained some reputation by his former papers to the Royal Society*, it was advisable not to present this, lest it should injure his established credit. This advice, though given with the best design, was neglected with the happiest consequences; for, although disappointed in his favourite mode of ushering his discovery into the world, he was confident that his work required no patronage: and therefore, after the addition of a few experiments made in this interval, he sent to the press his *Inquiry into the Causes and Effects of the Variolæ Vaccinæ, a Disease discovered in some of the western Counties of England, particularly Gloucestershire, and known by the Name of the Cow Pox.*

The title was unattractive, and the style unadorned; yet this short treatise from a provincial physician, quickly excited general attention: for Jenner's name was already familiar to those most learned in medicine and natural history; and no man of science could deny the

* Letter from Dr. Jenner in possession of the author.

correctness of his experiments, or the justness of his conclusions. A great fermentation instantly arose; and the subject was hotly discussed, both in professional circles and in general society. Many of the sanguine, and a few of the profound, were at once convinced of the truth of Jenner's opinions: but the cautious suspended their judgment; while the superficial and self-sufficient pronounced at once that the whole was an absurdity.

The faithfulness of Jenner's statements could only be ascertained by further experiments, and the honour of commencing them is due to Mr. Cline. This excellent surgeon, by the soundness of his judgment, perceived where the truth lay; but his prudence induced him to make his first trial in the most cautious manner. In St. Thomas's Hospital there happened to be a child with a distempered hip joint, who had never had the Small Pox: it was of peculiar importance to this child to be preserved from this disease; for, independent of the common danger, it might augment the scrofulous disposition, which from the diseased hip was suspected to be prevalent. Mr. Cline was also of opinion, that the joint might be benefited by exciting moderate inflammation on the skin, and consequently that this case was peculiarly well adapted for the first trial with the Vaccine. He then made a slight scratch on the skin of the hip with the point of

a lancet, and held for a minute in the wound a quill charged with vaccine lymph, which he had received from Dr. Jenner. A vesicle in all points similar to his description arose; the child sickened on the seventh day, and the febrile affection subsided on the eleventh.

Mr. Cline next inoculated the child with Small Pox matter in three places. These punctures inflamed slightly on the third day, and then healed; and the child resisted completely the variolous contagion. This case was immediately transmitted to Dr. Jenner, who published it.

It was clearly due to Dr. Jenner from literary justice to grant him for a little time, at least, the unmolested possession of the subject; and to permit him undisturbed to pursue and to establish, if he was able, his announced discovery. But there soon started up certain officious interferers, who, though destitute of inventive powers, could repeat the experiments described by another, and could even vary some of their circumstances: these men being practitioners in London, assumed a superiority over the country physician, and constituted themselves his judges.

Dr. George Pearson, a licentiate in physic, first rushed forward; and was so eager to divert towards himself the public attention, which was directed to Dr. Jenner, that he published a thick

volume * concerning the History of the Cow Pox, previous to his having seen the malady. He tried to supply some deficiences resulting from this inconvenience by disclosing his future intentions; by stating the experiments, which, when he could procure vaccine lymph, he was determined to make; and the propositions which he was preparing to solve: he pointedly affirmed, that he had resolved to admit of no loose hypotheses; but would rigorously demonstrate every truth respecting the Vaccine.

These laudable resolutions were diffusedly announced, and the work was swollen with replies to a multitude of letters, which he had dispatched to the dairy counties in hopes of learning something. But, by ill hap, his correspondents were as ignorant as himself; for not one of them had ever seen the Vaccine. They however civilly filled up their answers with all the rural rumours which they could rake together from the most intelligent dairy-maids: and

* An Enquiry concerning the History of the Cow Pox, by George Pearson, M. D. &c. 1798.

This physician is quite a different person from John Pearson, Esq. F. R. S. Surgeon of the Lock Hospital, and of the Cancer Institution; author of Principles of Surgery, Practical Observations on Cancerous Complaints, &c.: who vaccinated two of his own children, and was an early and steady promoter of Vaccination.

this incoherent mass of misinformation formed a tottering basis for many sophistical deductions. But Dr. George Pearson, being somewhat aware that such a compilation might disappoint his readers, was anxious that his next batch of letters should contain some real intelligence: he therefore added to his book, a list of thirty-two queries to guide the judgment of his correspondents, and, as he neatly expressed himself, "to save them the trouble of thinking." This plan of obtruding himself as a channel for the observations of others, might have been imputed by the unsuspicious to over-zeal for the public; but a disagreeable surmise was forcibly excited by the following exculpatory paragraph: "Perhaps it may be right to declare, that I entertain not the most distant expectation of participating in the smallest share of honour on the score of discovery of facts; the honour on this account, by the justest title, belongs exclusively to Dr. Jenner; and I would not pluck a sprig of laurel from the wreath that decorates his brow." As Pearson was at this time corresponding on friendly terms with Dr. Jenner, to obtain information on the Vaccine, which he alone could give, and which Pearson acknowledged he had never yet seen; this negation of any design to lay claim to the discovery, was superlatively superfluous. But it is difficult to

conceal the secret workings of the mind. Anticipated defences are often prophetic †.

The next writer on the Vaccine was Dr. Woodville, Physician to the Small Pox Hospital, who expected, from holding this office, that his opinion would have great weight. It was an employment which obliged him frequently to witness all the calamitous effects of the Small Pox, and would naturally render him very desirous of a preventive. Woodville, being a man of sense, judged it expedient to see some cases of the Vaccine before he wrote upon it; and therefore applied to Dr. Jenner for vaccine lymph; who had not been able, either by arguments or entreaties, to prevail upon such a number of persons to accept of the benefits of the Vaccine, as were requisite to preserve the infection.

† The laundry-maid of a gentleman of my acquaintance near Bromley, in Kent, was one night found murdered in an out-house. Next morning the females of the gloomy kitchen were lamenting in timorous whisperings the sad fate of their fellow-servant; when one of the footmen exclaimed, "that "he hoped the atrocious villain would soon be found out, "and hung in chains on the common." At which the gardener started, and cried out, "I declare that it was not me "that killed her." All the servants turned their eyes upon him with amazement: for, till that instant he had never been suspected. But he was soon implicated by a train of circumstances, taken into custody, and convicted of the murder. Ultimately he confessed the crime, and suffered the punishment that had been imprecated.

It had become extinct, and the cows in Gloucestershire were at that time free from the malady. Woodville then searched the neighbourhood of London, and accidentally found the disease in a dairy in Gray's Inn Lane, from which source he commenced a series of experiments at the Small Pox Hospital. This was the place most convenient for Woodville, but the least proper that could have been selected: for the house was usually pretty full of Small Pox patients; and children in every stage of the disease were daily carried to and fro. Woodville, trusting to fallacious analogy, considered those circumstances of no importance. He knew that a patient who has been inoculated with Small Pox matter, may be afterwards exposed with impunity to a variolated atmosphere; and he concluded, that, after Vaccination, not only a similar exposure would be innoxious; but that the vaccinated might even be inoculated with the Small Pox, without mischief.

Dr. George Pearson assisted at these injudicious experiments; in which the children who were vaccinated, were exposed at the same time to an air tainted with variolous vapour; and many of them were also inoculated with Small Pox pus on the third, fourth, and fifth days after vaccination. Most of the children being contaminated with both contagions, were seized with violent and dangerous symptoms of fever,

followed by an eruption of pustules on the body. But as vaccine vesicles were likewise excited, Woodville and Pearson were fully persuaded that the fever and eruption were the effects of the Vaccine solely. Other practitioners obtained fluid for Vaccination from this contaminated source; which in their hands also, frequently excited fever and eruptions, undistinguishable from the Small Pox.

These unexpected events raised a very unfavourable impression both of Vaccination and of the candour of Dr. Jenner. And while Woodville was proceeding with his experiments, and preparing for the press, Pearson anticipated him, and blazoned forth their bad success, in a periodical medical Journal. He there stated *, that Dr. Woodville and himself had already vaccinated upwards of a hundred and sixty persons, many of whom had contracted eruptions, which could not be distinguished from the Small Pox; and that the constitutional symptoms excited by the Vaccine, seemed to be as violent as those which usually were produced by variolous inoculation. This alarming annunciation was evidently calculated to extinguish every hope of benefit from the new discovery. Dr. Jenner, therefore, felt it incumbent upon him to defend the accuracy of his own statements; and

* Medical and Physical Journal, April 1799, p. 113.

he accordingly published *Further Observations on the Variolæ Vaccinæ*, 1799.

In this pamphlet he set forth some additional proofs of the Vaccine originating from the grease of the horse, and calmly maintained that increased experience had confirmed the account which he first gave of the mild symptoms of the Vaccine. He noticed having seen a few evanescent red spots, and sometimes a rash, which vanished in a day or two; but denied that maturating pustules like Small Pox, such as had appeared on the patients of Dr. Woodville and Dr. Pearson, had ever occurred on his. He added, that more experience must finally throw light on what now certainly appeared obscure and mysterious.

These remarks ought to have restrained the precipitation of Woodville; and a little more time would have unravelled the perplexities and confusion produced by his mingling the two contagions. But being too impatient for fame, or fearing lest he should be again precluded by the rapid pen of Dr. Pearson, he hastily hurried to the press, *A Report of a Series of Inoculations for the Variolæ Vaccinæ*.

In this premature essay, Dr. Jenner is faintly praised, by admitting that his description of the Vaccine in the cow is tolerably accurate: but the rest of his work is treated with very little

ceremony. For Woodville relates some unsuccessful attempts which he made to excite the Vaccine in cows by inoculating them with the purulent discharge from the grease in horses; and rashly concludes from these failures, that Dr. Jenner was misled in his notion of the origin of the Vaccine. He then details the cases of about five hundred children, who had been vaccinated at the Small Pox Hospital: many of whom had been seized with vomitings, diarrhœa, and headach; others with more alarming symptoms of fever; and one infant fell into epileptic fits, and actually died. Pustules had also broken out upon the bodies of about three fifths of these patients, which it is owned bore a great resemblance to the Small Pox. But Dr. Woodville entertained no doubt that the eruptions, and the violent and fatal symptoms, were all produced by the Vaccine: in consequence of which conviction, he expressed a doubt of establishing Vaccination in preference to variolous inoculation at the Small Pox Hospital.

Dr. George Pearson, eager to display superior critical discernment to Woodville, quickly sent forth another paper *, in which he again affirmed, that eruptions had also occurred to his vaccinated patients. These eruptions were of

* Medical and Physical Journal, February 1800, p. 97.

various kinds; sometimes unlike, and on other occasions undistinguishable from the Small Pox. He then speculates on these different species of pustules; expressing suspicions of vaccine matter being occasionally converted by composition or decomposition into variolous matter. This ingenious chemical theory, the product of his laboratory, is supported by an unintelligible analogy with sulphate of magnesia; and he concludes by saying, that these variolous-looking eruptions depreciate the value of the discovery, but not to any great degree.

It unquestionably contributes to the public good, that medical men should correct the errors of their predecessors; and both Woodville and Pearson were so attentive in discharging this duty, that, notwithstanding the warm friendship which they still professed, they rigorously sifted out, and instantly published, every mistake, which on the slightest surmise they suspected Dr. Jenner to have committed. These assaults brought into question his ingenuousness or capacity; and likewise endangered the adoption of his discovery. He was therefore imperatively called upon, either to acknowledge his errors; or to defend his works, and account for his patients being so differently affected from those of the above-named physicians, and of many other practitioners who had vaccinated with fluid obtained from them. For the medical

journals at this time teemed with cases of pustular eruptions from Vaccination.

In perusing Woodville's work, Dr. Jenner had detected the error which had been committed; yet he entered upon his defence with reluctance: for he could not vindicate himself without convicting those who were propagating Vaccination, of gross inaccuracy. Indeed, if persons who are prepossessed, could make use of their eyes, Dr. Pearson and the old physician of the Small Pox Hospital would have recognised the variolous pimples which studded the bodies of hundreds of their patients. But the invincible power of prejudication led them positively to maintain that Small Pox pustules were vaccine eruptions: and this deception was kept up by the pustules, in many instances, being unusually small; and desiccating early, from the influence of the Vaccine.

As the Medical and Physical Journal had at that time an extensive circulation, and was the usual vehicle of Dr. Pearson's animadversions, Jenner saw that by this channel he could give the most sudden check to the hostile opinions that had arisen, and to the mischief proceeding from employing variolous matter, under the denomination of vaccine lymph. He therefore inserted in that journal, a letter which stated, that, since he had begun to employ vaccine lymph, no pustules in any respect similar to

variolous pustules, had ever broken out upon any of his patients; and consequently he suspected, that in those cases where eruptions of that description had appeared, they were occasioned by variolous matter. Soon after he published a *Continuation of Facts and Observations, relative to the Vaccinæ Variolæ.* In this pamphlet he entered more fully into the subject in dispute; and declared, that he had used vaccine lymph taken from various cows, in the country, and also had procured some from the patients in London; and that the effects of all upon the human constitution were of the same mild character which he had detailed in his first publication. He repeated, that in some rare instances a few scattered pimples had shown themselves, which quickly disappeared, but no eruption like the Small Pox had ever occurred; and therefore he could not "imagine that eruptions similar to "those described by Dr. Woodville had ever "been produced by the pure uncontaminated "Cow Pock virus; on the contrary, he supposed, "that those which the Doctor spoke of, origin-"ated in the action of variolous matter, which "had crept into the constitution with the Vac-"cine: and this he presumed had happened from "inoculating a great number of the patients "with variolous matter; some on the third, "others on the fifth day, after the Vaccine had "been inserted: and it should be observed, that

" the matter thus propagated, became the source " of future inoculations by many medical gen- " tlemen, who were previously unacquainted " with the nature of the Cow Pox."

Thus Dr. Jenner, with all possible delicacy to Woodville and Pearson, unfolded the mystery; but the little passions of little men are easily raised, and the rashness of these physicians had occasioned an unlucky dilemma. If Jenner's justification were complete, those who had assumed the presumptuous task of correcting him were alone in fault: they, in a multitude of instances, must have mistaken the Small Pox for the Vaccine; and both inoculated, and distributed to others, the one fluid instead of the other. These mortifying inferences were not expressed by Dr. Jenner, but would probably occur to others, and could not escape themselves; and were of a nature that might have some effect even upon their private practice. This was alarming; for, although physicians are early inured to censorious whisperings, they are not accustomed to have their errors openly divulged: whose evil influence is often subdued by the salutary efforts of nature; and, when these fail, is either shrouded by the ignorance of the sick, or buried in the silence of the grave. Neither Woodville nor Pearson could brook such a disclosure. Woodville, being the most impetuous, suddenly vented his passion in an outrageous pam-

phlet, dedicated indignantly to Dr. Jenner*. He strove with all his strength to demonstrate that the vaccine lymph at the Small Pox Hospital was quite pure; and that the pustules which spotted the bodies of his patients were not excited by variolous matter, but by the variolous atmosphere which they had breathed. Thus, to vindicate himself from one error, he acknowledged another; but his inoculations of the vaccinated with variolous pus were certain proofs of his having committed both. He must, besides, have been aware, that cavilling about the source of the variolous contagion, which he admitted had attacked his hospital patients, could avail him little. However, he affirmed that this had not occurred to any of his private patients, and he manifested on this tender subject an excessive solicitude to remove every suspicion that might attach to the purity of the vaccine lymph which he employed; asserting that he had lately vaccinated 2000 persons, without one alarming symptom having taken place.

By this warm eulogy on his latter practice, Woodville refuted both his own and Pearson's former animadversions. But passion prevented his perceiving this, or that, while employing the

* Observations on the Cow Pox, by Dr. Woodville, July 1800.

language of hostility to Dr. Jenner, he was corroborating his doctrines.

After this atrabilious and illogical effusion, Woodville corrected the errors committed in his first experiments, and silently promoted Vaccination. But in a few years he fell a victim to intoxicating liquors, swallowed, as was believed, to alleviate a fixed melancholy, which proceeded from an unhappy deed perpetrated in early life.

The persecution of Jenner, first set on foot by Dr. George Pearson, was more virulent, and continued longer: he also had committed the mistake of confounding the Small Pox with the Vaccine. This false step frustrated at once the vain hopes he had entertained of rising superior to Jenner; and he soon sunk beneath his former mediocrity. Jenner's feelings were much wounded by these unprovoked proceedings. He likewise had erred; for, by living aloof from the world, he was not aware of the real value of epistolary professions; and imagined that all those who were so eager to make experiments with the Vaccine were, like himself, prompted solely by philanthropy. He keenly felt the disappointment, and resolved never to justify himself again; but to accumulate on the world all the benefits in his power. Much of his time was now occupied, and a great expense incurred, by a multiplied correspondence both foreign and domestic; and by transmitting vaccine lymph to all who

applied for it. The demand upon him was incessant, after the detection that the source of the Small Pox Hospital had been contaminated: and this soon became notorious; for variolous matter, under the denomination of vaccine lymph, was spread widely through England, and transported to Germany, and even to the island of Madeira, where a physician described the Vaccine as a pustular disease. Gradually, however, by subsequent attention, vaccine lymph alone was employed; and when this happened, the pustular cases disappeared, and Jenner's accuracy was acknowledged.

CHAP. III.

A MEDICAL OPPOSITION AND CONTROVERSY.

PREVIOUS to the defeat of Woodville and George Pearson, another and a more formidable contest sprung up, for Discord never sleeps; she scatters unceasingly her golden apples, not only at marriage-feasts, but in the temples of the gods, and in the chambers of death. In the fabulous ages Wisdom could not brook the triumph of Beauty: in all times churches erected to mitigate violent passions have been rent with schisms; and even those who devote their lives to assuage the sufferings of the sick are rarely united by concord.

Medical differences are proverbial, and sometimes prompt rivals mutually to insinuate that each have poisoned their patients. This is a strange imprudence in persons so well versed in the credulity of mankind. The present controversy did not arise, like many medical disputes, from the obscurity of the subject, but from another prolific cause. The Small Pox was a source of considerable emolument to every member of the faculty of physic. So perilous a fever called for the costly regular at-

tendance of physicians ; and as the act of inoculation was in the surgeon's province, this often secured to him the future treatment; while the apothecaries profited by compounding the prescriptions of both. Unless, then, the whole practitioners of medicine had also been practitioners of virtue, they could not unanimously have approved of a project likely to destroy so lucrative a branch of business: a great majority, however, warmly encouraged the plan. Surgeons, indeed, might expect to indemnify themselves in some degree by the exclusive practice of Vaccination; but physicians and apothecaries could have no means of reimbursement. Some of them might possibly be restrained by mere worldly prudence from risking the degradation of their characters in opposing so benevolent a scheme. But whatever deduction is made of persons suspected of being actuated by this selfish consideration, it must still reflect honour upon the profession, that a large proportion zealously promoted Jenner's design: a fact contradictory to the doctrine, that self-interest is the chief ruling motive of human actions.

There were, however, a sufficient number of adherents to Rochefoucault's Maxims to form an active opposition, of which Doctor Moseley claimed the merit of being the leader. Such

was his eagerness, that he published a libel*, as George Pearson a panegyric, of the Vaccine, before he had seen it. This displayed a predetermination; and his first objections were prophecies, which he assured us in his subsequent publications† were all fatally fulfilled.

Being aware that many persons are more influenced by words than by realities, he endeavoured to alarm mothers with the dread of contaminating their infants with the disgusting disease of an animal: accordingly, to augment their antipathy, he termed the Vaccine a bestial humour, declaring that "from its introduction "into the human frame, he had apprehended the "most dreadful consequences, which time and "experience have at length proved." And he did not scruple to aver that "blindness, lame-"ness, and deformity, had been the result of "employing the Vaccine in innumerable in-"stances, and that its fatal venom had removed "many an infant untimely from the world." He even added, that death from the Vaccine was peculiarly dreadful, affirming, "I have seen "children die of the Cow Pox, without losing "the sense of torment, even in the article of "death." Then, lest these consequences should

* Medical Tracts, by Benjamin Moseley, M. D. 1799.

† Treatise on the Lues Bovilla, or Cow Pox; by Benjamin Moseley, M. D. p. 11, &c. 1805.

not be sufficient to deter all, he raises a suspicion that this communication with beasts might likewise corrupt the mind, and excite incongruous passions.

The following anecdote, related to me by a nobleman who was present, will show the impression made on the judicious by this performance.

Moseley was physician to Mr. Fox during his last illness: and when he was visibly and rapidly growing worse, his relatives and friends often importuned him fruitlessly to call in more medical assistance. These solicitations being one morning earnestly renewed, Mr. Fox, instead of yielding, argued the point with his characteristic warmth; and, to prove his full confidence in the skill of Dr. Moseley, reminded his friends that in a late indisposition of Mrs. Fox, he had never once proposed consulting any other physician; and though he was accused of great negligence of his own safety, yet he presumed all present would admit of his solicitude for her's.

Just as he reached this part of the argument, Moseley entered; when, turning to him, he proceeded with his speech: "And you, Moseley, "are more in fault than all of them; for I am "told you have published a book exquisitely ri-"diculous against the Cow Pox, which adds "such force to their reasons, that I cannot repel

" them ; and now I am tormented by their " importunities more than ever."

Dr. Rowley, a veteran in practice, and a voluminous author, followed Moseley in a similar strain. As the early productions of this physician were filled with surprising cures of many dreadful diseases, especially cancers ; they had procured him considerable employment, but very little respect. In conversation he was voluble ; and when he talked on medicine to persons ignorant of the subject, he was even plausible. This will be evinced by an incident related to me by a gentleman of veracity, who, during a fit of the gout, was Rowley's patient. One day, when prescribing for him, Edmund Burke happened to call, and entered immediately into the medical discussion of the case. Rowley expatiated speciously on the hereditary disposition, the predisposing causes, the prophylactic symptoms, and concluded with his method of curing the gout, which, in the present case, he had no doubt would be successful. To whatever objections were raised, he had always prompt replies, which made such an impression, that, when he retired, Burke observed to his friend, " You have a very sensible physician ; I " have n't met with a more judicious man for a " long time." Burke's genius is incontestable : but his judgment on medical topics differed widely from that of the faculty : for, when Row-

ley discoursed at the Infirmary of disease and death, even his pupils were wont to smile; and in compounding his prescriptions, the apothecaries trembled.

This hackneyed practitioner had conceived, from gratitude towards the Small Pox, a mortal antipathy to the Vaccine, and seemed to have considered it as an insidious innovation, to subtract a portion from every physician's income: whereas, those methods of cure which he had himself recommended, had always an opposite tendency: for, to compensate the sufferings and disappointments of the patient, which resulted from their trial, a certain benefit always accrued to the prescriber. The fear of opposite events raised the wrath of Rowley to such a pitch, that he cast off all that decorum which is so stiffly maintained by the medical profession: he descended to put his name to vulgar hand-bills, and to employ bill-stickers to post up puffing advertisements, to quicken the tardy sale of his alarming publications. In consequence of his clamour and activity he was considered by many of the anti-vaccinists as their chief, though, from priority of enterprise, the palm was generally given to Moseley. Neither, however, displayed jealousy: their concord was complete, and they quoted and praised each other's works reciprocally.

We have doubtlessly reached a period in

which reason has acquired a limited sway over a small portion of the globe. But in the most lettered regions folly flourishes still; and sometimes, in the solemn and sacred garb of physic and divinity, plays off such fantastic pranks, as recall to our recollections the antic mummeries of the dark and dawning ages.

Two years ago an elderly moon-struck virgin had worn out her dreaming days in praying, preaching, and prophesying. But as ravings resemble inspirations, Johanna Southcott gained admirers. Many devout and neglected maidens are consoled by an inward persuasion of their being chosen vessels; and notwithstanding the pious humility of this visionary, after she had reached the borders of old age and decrepitude, she suddenly imagined that her shrivelled carcass was elected to be the temporary residence of God.

On this, a few of her fanatic followers were gathered together: they found Johanna entranced on a rush-bottomed arm-chair; her veiny hands were clasped together, her head was laid back, and her rheumy eyes rolled upwards, descrying invisible things. Wonder held all in suspense! At length the prophetess modestly muttered forth some strange sentences, which seemingly imported, "that the "Spirit had descended into her womb; that she

" had conceived and quickened, and would in " due season bring forth Shiloh."

This amazing prophecy being delivered in a tremulous voice and in obscure words, was hardly comprehended, but firmly believed; and, when subsequently explained, was believed still. The glad tidings resounded from the pulpits of several meeting-houses. Practitioners in midwifery were sent for, they all proved refractory except one unlicensed physician, who confirmed the pregnancy; and about one hundred and fifty thousand guileless bipeds* credited this miracle. As tenacity to a dogma is always in the ratio of its improbability, the faith of none was shaken by Johanna passing beyond the natural term; for such a gestation was illimitable.

And even after the wrapt enthusiast died, was dissected, and buried, some bigots would not renounce their belief; but steadfastly ex-

* The secret converts cannot be numbered; but it was asserted, that the above multitude were actually sealed by the saint, with a seal which she accidentally picked from the earth, but which had in truth fallen from heaven. This sect were not only scattered over the counties in the neighbourhood of London, but reached as far as Yorkshire; their main strength, however, lay in the Borough. It consisted chiefly of journeymen mechanics and labourers, to whom had united themselves a few ladies, three dissenting ministers, two Royal Academicians, and the quack doctor noticed above.

pect still, that she will awaken from her trance, arise from the grave, and be gloriously delivered.

Rowley's frenzy was less transcendent; for a ray of professional cunning always shone through his clouded intellects. In striving to gain notoriety, and to give an impression that he knew something of physic, he lectured; and secured an audience of needy students, by making presents of his admission-tickets. In truth, he could descant on diseases in general, fluently and calmly; but when the Vaccine was touched upon, he instantly became frantic.

One morning he had prepared a lecture on this unhappy subject, when, even on entering the room, his manner was evidently hurried.

He began by declaring an insuperable aversion to every hypothesis; which, he said, was the rock on which ancient and modern philosophers had foundered. All presumptions, all probabilities, ought to be banished from the science of medicine, and no proofs that were not demonstrative ought to be admitted.

He then placed on the table a sickly pallid girl; whose arm was first shown imprinted with a vaccine cicatrix. The body was next uncovered, which was spotted with a number of unsightly scabs. "Here," he triumphantly exclaimed, "is ocular demonstration of an unde-
"niable fact. The parents of this hapless child

" will inform you that she was born without a " blemish ; but unfortunately five years ago she " was contaminated with the Cow Pox humour. " It lurked long in her blood, and now you be- " hold its effects. This is the true Cow Pox " mange." After this disgusting spectacle was removed, he introduced a poor boy, whose face was swollen and much disfigured by a large abscess. He requested his auditors to inspect closely this unparalleled case. " On this cheek " you plainly perceive a protuberance arising, " like a sprouting horn ; another corresponding " one will shortly spring up upon the other side ; " for the boy is gradually losing the human li- " neaments, and his countenance is transmuting " into the visage of a cow."

The gravity with which this opinion was pronounced, increased the mirth which now shook the hall. The father, vexed that his son's illness was made the subject of merriment, carried him home in a huff. But Rowley had become incurable, and soon after published a bewildered work *, surpassing his own lectures.

* Cow Pox Inoculation no Security against Small Pox Infection. By William Rowley, M. D. &c. &c. To which are added the Modes of treating the beastly Diseases produced from Cow Pox, explained by coloured Copperplate Engravings, Cow Pox Mange, Cox Pox Ulcers, Cow Pox Evil or Abscess, and Cow Pox Mortification ; with the

It contained two engravings ; one, of the mangy girl, and the other, of the ox-faced boy ; but he candidly ascribed * the sole merit of discovering the metamorphosis to his friend Dr. Moseley ; who, he said, had often seen negroes distorted into the appearance of various animals by the yaws.

Rowley also confirmed † the truth of Moseley's assertion, that the Vaccine was a fatal disease ; in proof of which two hundred and eighteen cases were adduced, where new diseases and death had followed Vaccination. This hare-brained man, likewise, as is common with persons similarly affected, expressed pity for all who dissented from his opinion, considering them as downright madmen, and fit for Bedlam. Notwithstanding all this, Dr. Moseley and his partisans continued to uphold Rowley as a physician of respectable authority.

To these physicians, a surgeon soon associated himself, though, from the station he held, a better conduct might have been expected ; for Mr. Birch had attained the office of surgeon to one of the principal Hospitals in London, and was honoured with the appointment

Author's certain, experienced, and successful Mode of inoculating for the Small Pox. Audi alteram partem. London, 1805. (The above is an exact transcript of the title-page.)

* Lib. cit. Introduction, p. 8.

† Ibid. p. 6, 11, 38, 39, 81, &c.

of Surgeon Extraordinary to the Prince of Wales. Prudence, at least, usually prevented persons so conspicuous from plunging into the slough of anti-vaccinism; but, to the surprise of his colleagues, Birch published *Serious Reasons for uniformly objecting to the Practice of Vaccination.* The most weighty of these was deduced from a conjecture, that what was denominated the Vaccine was sometimes the Small Pox, and at other times the Itch *. Yet, in spite of this theory, he also maintained, with Rowley and Moseley, that a brood of distempers, the offspring of the Vaccine, were newly sprung up. For Birch could not perceive, that if the Vaccine was either the Small Pox or the Itch, the direct progeny of these ancient families could not be brutal upstarts. But though the accusations against the Vaccine were all incongruous; yet as they proceeded from professional men, whose designations, at least, were respectable, they were not innoxious. This was made manifest by multitudes being proscribed in the fatal tablet of the Small Pox by the triumvirate. Still some little good alloyed this evil: as by this they became known, and lost opportunities of a similar kind in all other diseases †.

* Serious Reasons, &c. by John Birch, &c. p. 36, 41, &c.

† Mr. Birch's capacity never cast doubts on his sincerity:

Such were the chiefs who commenced the opposition to Vaccination; and they were soon supported by an ignoble crowd of pamphleteers, who bore testimony to the existence of the monstrous new diseases which were pretended to arise from the Vaccine. One of these was a common quack, who lived by the sale of an infallible powder; another was a wretch, at that time suspected, and soon after convicted and imprisoned, for infamous conduct: most of the others were obscure, starving, or disappointed practitioners, who strove by this means to acquire a little notoriety and employment. The

he strenuously opposed Vaccination while he lived, and now that he is gone, he opposes it still. For, lest his paper compositions should speedily perish, a marble tablet has been erected in the church of St. Margaret Pattens, with an inscription to commemorate his sentiments.

The lapidary style of the Serious Reasons is continued on this more solemn and appropriate occasion.

The epitaph is long, but not tedious; and the part which belongs to the present subject shall be transcribed.

" But the practice of Cow Poxing,
" Which first became general in his day,
" Undaunted by the overwhelming influence of power and prejudice,
" And the voice of nations,
" He uniformly, and until death, perseveringly opposed;
" Conscientiously believing it to be a public infatuation,
" Fraught with perils of the most mischievous consequences to mankind."

Thus, " Even in our ashes, live their wonted fires."

event showed that much mischief may be done without talents; for, so loud a clamour arose, that the progress of Vaccination was checked; and Jenner was for a time impugned, as the polluter of the blood of the human race. But this ingenious man had created a phalanx of disinterested and active friends, who defended his system, and justified all his ways. Mr. Ring *, in particular, rolled through the town, and round the suburbs, to trace the reported failures to their source, and to sift the cases in which mischief was imputed to the Vaccine. Mr. Blair, and many other respectable surgeons, cooperated in these researches, and soon detected that the pretended cases of new distempers were either gross misrepresentations or impositions. But Jenner's friends could not refute as fast as Rowley's could invent; for lists of vaccine catastrophes succeeded to lists in quick succession.

It has since been confessed by a journeyman apothecary, then out of place, that he was one of the persons employed and paid by Rowley for finding out cases; that all he heard of he carried to Rowley; and when rumours failed, he forged names, addresses, and disasters, at his own hazard: for Rowley's love of miseries rendered him the dupe of his informer.

* Author of Treatises on the Cow Pox, Gout, and other works.

This secret was then undiscovered; but a scrutiny was published of the writings of those authors who opposed Vaccination *.

Their arguments, facts, and theories, were all compared, and examined by the light of internal evidence: this confrontation they could not sustain, and the admission of every fact proved a sure, as well as a courteous method of destroying their credibility. Even the transmutation of the boy was freely granted: two physicians had attested it: the boy's address was published, and all might see him who pleased.

Besides an ancient author, a correct observer of nature had noticed a similar phenomenon; Puck's case by Shakespeare was closely in point, though Rowley and Shakespeare have differed about the cause. But surely the wand of a fairy is a much more probable agent of such an effect, than vaccine lymph, which had not then been discovered. And since Rowley erred so palpably in the cause, he might also have been incorrect in the fact; for, instead of metamorphosing the boy, it was more natural for the arch goblin to play the same prank upon the doctor, which he performed so featly on Bottom the weaver.

None of Rowley's friends denied the justness of this conjecture, and the poor ass himself

* A Reply to the Anti-vaccinists, 1806.

never brayed more. Indeed, the anti-vaccinists afterwards carefully shunned all mention of new diseases: but they poured from the press, and clamoured through the town, disastrous accounts of eruptions, humours, and common disorders, which were all attributed to the Vaccine, and were sometimes attested by respectable people.

The most ignorant are usually the most facile in affirming the causes of medical facts, and imagine they cannot be mistaken concerning what they have actually seen or suffered. But reflecting physicians know, that a life of laborious research is often insufficient to ascertain the truth of one cause of a disease. For the necessary evidence is very different from that which is adequate in ordinary occurrences, or even in judicial proceedings. One positive witness, supported by two or three circumstantial testimonies, is deemed sufficient to convict an accused person of murder, and to inflict upon him the pains of death. But the solemn declarations or oaths of hundreds, nay of thousands of disinterested people, are often inadequate to render medical causes or effects in the slightest degree probable. This is owing to the generality of mankind rarely discriminating facts from opinions; and, instead of confining their assertions to those events which are cognizable by the senses, they superadd the

judgments which they form respecting the causes or effects of the facts.

Infinite are the errors thus unwittingly committed. For, as mankind are more anxious to know, than patient to investigate, when two incidents are observed to succeed each other, the first is often with too little consideration adjudged to be the cause of the second. The satisfaction produced by this apparent knowledge, frequently prevents due attention to all contradictory facts, which would bring into the mind the disagreeable intrusion of doubt. Whence even a single contingency is received by many, as a sufficient proof of the relation of cause and effect; but when similar contingencies, though fortuitous, have been repeatedly noticed, the conviction of the one being the cause of the other, becomes so rivetted in the mind, that nothing but the wedge of philosophy can sever them.

In the more certain sciences, such false deductions are drawn occasionally, but in medicine perpetually; for, in the latter, no other proofs can be found, than the probable; and the number and value of these are not easily calculated. There is, besides, a peculiar difficulty which often checks the prudent from drawing any inference respecting causes, but which with others is the source of an infinity of false conclusions. The changes which are constantly taking

place in the animal economy are numerous, and these are multiplied during disease. In this state, sometimes after a spontaneous tumultuary action of the organs of the body, and at other times after an unusual abatement of action, health is restored. It has thence been concluded by many eminent pathologists, that nature alone has a power of remedying distempered bodies. When to this variety of natural, diseased, and remedial actions, there are superadded the artificial operations of medicines and medical treatment, it becomes most difficult, and often impossible, for human sagacity to discriminate precisely the causes of the effects which are witnessed. Yet ordinary persons have often no hesitation in believing and affirming positively, that a particular drug or doctor cured or killed those, who have recovered from, or perished by, the most obscure diseases.

Physicians, however, perhaps gain, as much as they lose, by the senseless judgments of the world. For, in a thousand common ailments, though no remedies were used, probably not above two or three would prove fatal. And if all were treated by a physician who should direct nothing injurious, he might acquire by the results considerable credit. Even should all those cases have fallen into the hands of an ignorant impostor, and though the salutary operations of nature should have been weakened or counteracted by his interference, and ten or

twenty actually destroyed; he might still have a pretext for boasting of having cured nine hundred and eighty or ninety sick persons. This calculation is sufficiently accurate to show also the preference which is due to a good physician.

Perhaps no problems are more difficult to be solved, than those in medicine, even by the profound; and certainly none are so confidently decided upon by the superficial. In the History* of the Small Pox numerous examples were exhibited of erroneous opinions being formed by ingenious physicians, and prevailing for ages; and multiplied instances of the same kind could be shown in the history of every other disease. But it is also certain, that, as physicians advanced in knowledge, they became more diffident in assigning causes and less dogmatic in predicting effects. This augmenting modesty in the learned, does not extend to the rest of the profession. From the temerity in judging medical points, the wildest absurdities have gained belief among men of the highest capacities in all ages and in all countries. Indeed, on no subject could the aberrations from reason of the most philosophic nations be more strikingly manifested, than by a history of the various medical superstitions which have prevailed in the world. For, magical and sacred words, signs,

* By the Author.

statues, metals, stones, trees, flowers, herbs, and substances as various as the illimitable fancy of man could devise, have been thought the causes, cures, and preventives of innumerable distempers.

In the most brilliant periods of ancient Greece and Rome orators and philosophers of eminence were firmly persuaded that diseases were often cured, and death averted, by gifts vowed, or victims sacrificed, to Apollo and Æsculapius; and the divine attributes of these phantasms were also believed to be possessed by their images, and by innumerable inert animal, vegetable, and mineral substances. This latter superstition continues in some parts of the globe, to the present times. An episodic example of this, not perhaps devoid of interest, shall be given*.

When Seringapatam was stormed by the British forces, Tippoo Saib defended the breach with his choicest troops. He fired repeatedly, and brought to the ground some of the boldest assailants; and persevered in the defence of the successive traverses of the fortifications, until most of those who accompanied him were slain or put to flight. In these conflicts

* Asiatic Annual Register, vol. i. p. 224; vol. ii. p. 101. Beatson's View of the Origin and Conduct of the late War with Tippoo Sultan.

having received a wound in one of his limbs, he mounted a horse, and resolved to force his way into the inner fort, to close the gates, and attack those who had already entered.

But as he pushed onward through the gateway, a heavy fire from the front and rear was directed towards him: his soldiers dropt around: he received more wounds, the regal turban fell from his head, and his horse sunk under him. In this last extremity a few remaining adherents raised the fallen Sultan, placed him on a palanquin at the side of the gate, and were then driven out, or fell by his side. At length, in the tumult, a British soldier spied his rich sword-belt, and attempted to pluck it off: on this, the indignant prince exerted his remaining powers, and struck him on the knee with his sabre. His antagonist instantly pointed his firelock, shot the Sultan through the temples, and passed on unconcernedly, leaving the body amidst three or four hundred dead or dying men, who were strewed under the gateway. This event being unknown, strict search was made for the Sultan, and towards evening the palace was surrounded by the British. For, besides the ordinary guard commanded by a confidential Killadar, crowds of fugitives had taken refuge in the royal residence, in which, as a sanctuary, the two sons of Tippoo, and above six hundred trembling females, remained. For-

tunately for them, Major Allen *, bearing a flag of truce, entered the palace. When admitted into the apartment of the princes, he took the eldest son compassionately by the hand, consoled him, assured him of his safety, and induced all to yield without further resistance. General Baird, who was at the gate, could not have forgotten the savage treatment he had endured during a captivity of two years in this fortress. He commanded in the storm, was heated by the conflict, and enraged by having just heard that the Sultan a few days before had barbarously massacred some British prisoners, who had lately fallen into his hand. Notwithstanding which, when the young princes were led out by Major Allen, he received them with sympathy, ordered the troops to salute them, directed that they should be conducted to a place of safety, and treated with the respect due to their rank.

In consequence of some vague information, Major Allen, accompanied by the Killadar, and preceded by a torch-bearer, went to search the arched gateway. In this scene of carnage, Rajah Cawn, a confidential servant of the Sultan, lay wounded; who pointed out the spot where his master had fallen. But the perturbed Killadar could hardly recognise by the glimmering

* Afterwards Colonel Allen, Member of Parliament for Berwick.

light of the torch the countenance of the tyrant, once so stern, but now, how much altered! The corpse was conveyed to the palace, and was curiously surveyed by numbers of the British. It was still warm; and as the eyes were open, doubts were entertained of his death. On which Colonel Wellesley* put his hand upon the heart, to feel if it still beat.

On undressing the body, there was found upon the right arm a talisman, consisting of an amulet of a brittle white metallic substance, sewed up in pieces of flowered silk, and in manuscripts inscribed with magical Arabian and Persian characters. This had been constantly worn by this politic and warlike prince, as a sure preservative from disease and wounds. The invention of such a superstition, which has descended from the remotest antiquity, must appear strange; and it might be asked, could not the wise men of the East observe, that bullets and pestilences paid no respect to their most potent talismans? But the properties of amulets have ever been maintained on the grounds of experience, on the very principles of Bacon's philosophy; as the fortunate possessor usually escaped death many times, and never died but once.

* Since Duke of Wellington.

Such notions are not confined to Asia: but in Europe the fashions of folly are more mutable; though there are still remaining here some obscure traces of magic and witchery. Philosophy has gradually undermined this enchanted structure, but cannot boast of having subverted the medical reputation of Apollo and Æsculapius. For, the pagan deities lost their divine attributes in the fourth century, more by the intolerant decrees of Theodosius, than by the intellectual rules of logic. On this persecution the physical virtues adherent to Greek and Roman statues were transferred to the images of Christ, of the Virgin, and of an host of martyrs, and to sanctified places. During many centuries multitudes of sick confidently expected to be restored to health by drinking at a well where a weary hermit had washed his feet; the dying hoped to escape death by kneeling all night on the cold tomb of a saint; and the touch of an Apostle's bones even resuscitated the dead.

Many relics acquired such distinguished renown, that the kings of England and France appeared to have been seized with envy, and undertook the cure of a most untractable disease. They practised, according to historical and medical records, with miraculous success, for between six and seven hundred years. Unquestionably, some of these Christian kings per-

formed their medical functions with sincerity; but they were probably ignorant of heathen princes having antecedently displayed the same proofs of their divine rights.

Pyrrhus of Epirus * corroborated his claim to a disputed throne, by curing with a touch of his great toe, those who were afflicted with distempered spleens; and accepted in recompense a white cock from each patient. Even after the monarch's decease, this toe, according to the sage Plutarch †, was inconsumable. When Vespasian, who was of humble birth, had arisen to the chief command in Asia, both a blind and a lame man were informed by the god Serapis, that the proconsul could cure them. This he publicly performed, and thence concluded, that he was destined to wear the imperial purple. Hadrian ‡ also restored the blind to sight. Such notions are now derided; but many of the scoffers credit others equally preposterous. For, although magical incantations, superstitious rites, and the royal touch, have been expelled from physic, yet they have been succeeded by electrical, magnetic, galvanic, and medical mysticism. As what is

* Plutarch, the Life of Pyrrhus; also Plin. Nat. His. lib. vii. cap. 2. "Sic ut Pyrrho regi pollex in dextero "pede, cujus tactu lienosis medebatur."

† Taciti Hist. lib. iv. c. 82. C. Sueton. lib. viii. c. 6.

‡ Vita Adrian. Ælio Spartiano.

unknown is usually admired, and cures follow every treatment, innoxious secrets have always wondrous success. So, in this improved age, and in the enlightened city of London, belts of hidden composition, and magnets oddly carved, are sold for the cure of the gout and rheumatism: ox-bone beads, termed anodyne necklaces, are hung round the necks of infants of the highest and lowest ranks, to preserve them from fits; and thousands of bits of brass and iron soldered together, for the cure of twenty diseases, were lately purchased, under the name of galvanic tractors, at six guineas a pair. Modern empirics often save themselves the trouble of invention, and only revive an exploded folly. What in the darkest ages exceeds that which may be seen daily in London—numbers of well-dressed persons, carrying in their pockets a full phial, and knocking at a water-doctor's door? These patients, who have a rational appearance, not only attend to the advice given, but swallow the drugs which are administered to them, and pay dear for both.

There is, besides, a respectable and shrewd looking female physician, who has contrived to save herself the trouble and expense of preparing physic. She keeps a handsome equipage for attending her patients, who are generally ladies of rank, and always of fortune; and her whole art consists in wagging at them her thumb and

fingers, which is done so adroitly, that some are cured and all are duped.

It is most likely that the influence of these successors of mountebanks and jack-puddings is on the decline, yet by no means rapidly; for the ingenuity of empirics keeps pace with the extension of knowledge; and they play their improved pranks on the hopes and fears of the sick with such address, that it is not rare to find men of abilities both in the law and church ranked among their gulls. When will this cease? Never, while persons not conversant in the principles of medicine, shall conceive themselves competent to judge of remedies; and, from accidental occurrences, shall venture to draw inferences in a science which requires to be scrutinized by much stricter logical rules, than are in common use.

There is no reason to suspect that Rowley or his partisans understood the principles of quackery; but they could not be ignorant of the fallacy of the vaunted results of empirical experience. They were threatened with the loss of the Small Pox, and feared that the proneness to confide in pretended antidotes might be converted into a belief of a real preventive.

Interest made them hostile to Vaccination, and all at first joined in the cry, that it excited a swarm of new diseases. But the ridicule cast upon the two examples which were produced,

greatly tended to hush this din. Yet some growling about bestial humours continued to be muttered by the worst-bred curs of the pack. The rest had the discernment to perceive that it would suit their interest better, roundly to accuse the Vaccine of being the cause of those maladies which children were actually subject to; nor were they restrained by the absurdity of assigning a cause newly sprung up, to effects which had existed time out of mind.

On this plan there was no want of vaccine disasters; for, whenever a child was affected with a disagreeable eruption, or any other uncouth disorder, whose origin was obscure, they peremptorily affirmed, it was produced by the previous Vaccination, although with equal reason they might have imputed it to the previous baptism. But as this account vindicated the constitution both of the child and its parents, it was gladly received, and eagerly repeated to all inquirers; which brought the Vaccine into great disrepute. This doctrine made a deeper impression in proportion to the softness of the intellects of the hearers, and produced in multitudes a preference to variolous inoculation. In forming this decision, it was forgotten, that the charge against the Vaccine was equally applicable to Small Pox inoculation; and, indeed, was only the renewal of an old accusation of that practice. But since the period of the introduc-

tion of inoculation, there had been ample time, and the subject had been seriously attended to: and the profession had become universally of opinion, that variolous pus inserted into a wound excited the Small Pox alone, and never any other malady to which the person furnishing the matter was subject. Inoculation was as free from this tendency as the casual infection. Indeed, the law respecting all infectious diseases, as Small Pox, measles, the plague, and others, was in this respect the same. In whatever form, or by whatever means, the infection is conveyed, the specific disease under which the patient labours at the time is alone communicated, and unmixed with other complaints to which the person infecting may be disposed.

Were it otherwise, each individual of the present generation would be overwhelmed with an accumulation of distempers. But although the disease contracted by infection is simple, yet, after it has finished its course, it is not unusual for ailments of a different character to occur. These last disorders have evidently no reference to the subject from whom the infection was derived; but are to be attributed to the patient's constitution, and to the shock the system has received by the disease. Thus the measles sometimes leaves a tendency to inflammatory affections of the lungs and eyes; and scrofulous symptoms sometimes follow the Small Pox. But

instead of the latter proceeding from the pus used in inoculation, the intelligent have observed, that they occurred more frequently after the casual, than after the inoculated Small Pox, the former mode of contamination being the more violent.

The above principle, which governs other infectious diseases, also applies to the Vaccine. This infection is of the mildest nature, it can neither be conveyed by the breath, nor by perspiration; it can only be excited by depositing in a wound, or upon an abraded surface, some vaccine lymph.

Whether the lymph was taken from a cow, or from the human subject, the malady produced is simply the Vaccine: and respectable observers have never detected any other effect from Vaccination. There are not even those grounds of suspicion which are attached to variolous inoculation: for, the vaccine process is so gentle, as neither to enfeeble the habit, nor to rouse into action any indisposition which may be lurking in the constitution; and its influence is so transient, that in a very few days even delicate infants recover their pristine health.

CHAP. IV.

OF SMALL POX OCCURRING AFTER THE VACCINE; AND OF SMALL POX AND SEVERAL OTHER INFECTIOUS DISEASES, IN SOME INSTANCES, RECURRING TO THE SAME INDIVIDUALS.

The groundless objections, hitherto raised against Vaccination, had at first a more powerful influence, than one now to be considered, which has some foundation. It was gradually observed, that a few of the multitudes who had been vaccinated were subsequently attacked with an eruptive fever. An outcry immediately ensued; some affirming, and others denying, that these eruptions were variolous. Strong attestations were signed, and virulent pamphlets were printed; for zeal and faction carried each party to extremes. But when this fervour had a little abated, it was evident to the impartial, that both had been in the wrong.

It was shown in the History of the Small Pox, that the same accusation was formerly raised against inoculation by Wagstaffe, De Haen, Van Swieten, and others: when the over-zealous advocates for that practice, in order to repel the charge, positively denied that the Small

Pox had ever attacked the same individual twice. A similar indiscretion was committed by some warm friends of Vaccination *. They refused their assent to the evidence in any case where Small Pox was said to have seized a person who had previously been vaccinated, and were precipitately convinced that Vaccination was an infallible preventive of Small Pox for life. Assertions of that force ought to have been left to the modern church of Rome: they were not in use in the ancient ritual. For Quintus Cicero †, an orthodox pagan, and a staunch believer in augury, supported this doctrine by boldly comparing it with the science of medicine; and maintained that the predictions of a soothsayer were not more fallacious, than the prognostications of a physician. Although the aptitude of this simile is inadmissible, yet it must be granted, that infallibility is inapplicable to human nature. Even in mixed mathematics, though the demonstrations are universally true in theory; yet, when the principles are put in practice, failures are frequent; for it is impossible to form

* Amongst whom was the author.

† "At nonnunquam ea, quæ prædicta sunt, minus eve-
"niunt. Quæ tamen id ars non habet? Earum dico artium
"quæ conjectura continentur, et sunt opinabiles. An Medi-
"cina non putanda est? Quam tamen multa fallunt."

Cicer. De Divinat. lib. i. § 14.

figures, and to mould matter, conformably to ideal perfection. Since invariable success is denied to the mathematical arts, was it to be expected in medicine; the practice of which is not founded upon fixed self-evident propositions, but upon an imperfect knowledge of the animal economy, and of the numberless agents and events which influence the solids, the fluids, and organization of the bodies of ever-varying men; each individual of whom is dissimilar to every other: and all are moving, acting, and suffering under different circumstances; and changing perpetually from their first conception, even till their death. On a transient view of this incalculable variety, it might seem impossible to approximate to any rational system. But upon a closer inspection it is perceived, that there is a considerable similarity in the structure and operations of all human bodies; and that the deviations and disturbances of which they are susceptible, are limited to a certain range, beyond which life cannot subsist. It is owing to the portion of uniformity, harmony, and regularity in the construction and functions of the human organs; and to the aberrations, discordances, and anomalous irregularities being limited in extent, that there is a basis for the doctrines of physiology and pathology. Perfect health would require a faultless body and mind, residing in the most salubrious atmosphere and temperature,

employing the diet, exercise, and repose, which was precisely adapted to the constitution, and never encountering either mental or corporeal evils. This ideal state of felicity was never for an instant enjoyed on earth by any human being. For every infant is born with some hereditary imperfection; and has its nerves irritated, its organs disturbed, and its volition controlled, from the commencement, until the termination of life.

The movements of the animal machine are, however, more regular, in proportion as individuals approach to the imaginary state of perfect salubrity; and become irregular, as they diverge into that of disease.

In distempers, the confusion is in every possible degree; and the perplexities are infinitely varied. Yet in this maze there is a plan; there are concordances by which maladies may be classed; and there are general principles which influence their commencement, progress, and termination. All medical prognostications depend upon a knowledge of that degree of regularity which usually takes place in diseases. But no absolute dependence can be put upon them, on account of the anomalous deviations which occasionally occur. There are also many medical maxims which prove sound generally, but which nevertheless fail in particular instances.

Among others, this has been observed, that there are certain maladies which are apt to afflict the same persons repeatedly; and the oftener they have taken place, the more prone they are to recur. Gout, rheumatism, catarrh, and ophthalmia, are of this kind. Yet, notwithstanding the general truth of this position, there are some persons, who have had one attack of these maladies, and through a long life have never had a second.

To contrast with this, there is another class of diseases which mankind in general are susceptible of contracting only once. But each of these diseases have assailed some individuals more than once; except one, whose first attack is supposed to be always mortal.

Diseases of this second class are all produced by morbid poisons, either in a liquid or gaseous form; and are certainly of a less ancient origin than those distempers which are excited by cold, heat, moisture, surfeits, want, marshy vapours, and other causes whose existence has been coeval with the world.

The most terrible of the morbid poisons is the saliva of a dog affected with hydrophobia. Whenever this deleterious fluid has been deposited in a wound, and has begun to stimulate the living fibre, the human powers are quite inadequate to expel, or to resist it; and as no remedy has been found out capable of controlling its

violence, the disease continues, until the vital powers are extinguished.

The siphylitic poison is also superior to the medical powers of nature, and would be as fatal as the hydrophobic, if an antidote had not fortunately been discovered to counteract its virulence. But as this disease can only be cured by the operation of medicine, and not by the natural actions of the body; as soon as the influence of the medicine has ceased, the body again becomes susceptible of the disease; and this malady may be contracted again and again by repeated applications of the contagion.

The other morbid poisons, the Plague, the Small Pox, Chicken Pox, Measles, Hooping Cough, Mumps, the Scarlet, and perhaps some other fevers, are all distinct infections, yet regulated by similar laws. When a man in health contracts for the first time any of those infections, he is seized, at a regular period, with the peculiar symptoms of the malady; and there is formed in the contaminated body abundance of infectious vapour, which evaporates from his person. The disease sometimes proceeds in a tranquil, and at other times in a most tumultuous course. But if its progress is not interrupted by death, after it has reached to a certain height, and when infection is steaming from every pore, the symptoms meliorate, the production of the morbid matter de-

clines, and stops; that which was formed is eliminated; the body becomes insensible to the stimulus of the poison, and gradually resumes a state of health.

Unless this alteration in the body took place, all these maladies would be mortal in every instance; for there is no specific for any of them known.

The old physicians, either from reluctance to acknowledge their incapacity of accounting for these favourable events; or from a facility of admitting mysterious words as adequate causes, imputed the whole to the medical powers of nature. This continues to the present times a favourite phrase; and is even sometimes styled a doctrine. But whatever produces that insensibility to the stimulus of these poisons, which is acquired in the progress of these diseases, the altered state of body usually continues through the remainder of life. Individuals, therefore, who survive one attack of these distempers, commonly resist the infection ever afterwards. This general maxim, however, like all others, has its exceptions. It is universally admitted, that the plague has frequently attacked the same persons repeatedly: and that the hooping cough, mumps, and scarlet fever, have sometimes seized the same individuals oftener than once, is rarely denied. But the recurrence of the measles has been disputed.

This scepticism, however, is not certainly to be found in the very early writers, most of whom admit the occasional exception; and the evidence of later times is quite decisive. Richard Morton saw one case where the measles occurred twice; Professor De Haen* attended two patients of the same kind; and Burserius† has collected a number of examples from unquestionable authority, where the measles took place twice. In addition to which, Dr. Baillie, a physician of the most clear and unbiassed judgment, lately observed, and distinctly described ‡, eight examples of this incident: since which, this question seems to be considered as settled.

That the Small Pox was also governed by the same general rules was never doubted, until variolous inoculation and Vaccination became subjects of medical feuds. But the friends of inoculation in the middle of the last century, and the enemies of Vaccination of the present day, have ventured to deny that Small Pox ever had attacked the same persons twice; which denials are in opposition to recorded affirmations from the highest authorities. The profession indeed of late has been excited to a close con-

* Ratio Medendi de Haen.

† Institut. Medicin. Pract. Burser. tom. ii.

‡ Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii.

sideration of these points; and a multitude of examples has been published of Small Pox having seized eertain persons twice. Which facts are so common, as no longer to exeite partieular attention.

Although many of these eases were well founded, all certainly were not: indeed, it is often difficult, or impossible, to determine the matter.

There are two prineipal eauses of this embarrassment: the first applies, not only to Small Pox, but to all the other infectious diseases of this class; namely, that the second attack is generally mild. This mitigation of the symptoms, together with a eorresponding alteration in the form of the disease, easily deeeived those who were prepossessed against the recurrenee of the malady. And it is so remarkable, that perhaps there is no instance on record in whieh a secondary attaek of the hooping eough or measles proved fatal.

But as the Small Pox is a mueh more virulent disease than either, there are several authenticated instances recorded, in which the second attack of Small Pox was of the confluent kind, and destroyed the patients.

The other cause of the difficulty of ascertaining the secondary attack of Small Pox, is the resemblanee of this disease to the Chieken Pox.

According to systematic writers, this is an easy business; for, to render their discriminations clear, they dwell upon the striking characteristics of well-marked examples, and pass slightly over the blended forms and evanescent symptoms of obscure cases.

Yet, perhaps, no distemper is more diversified than the Small Pox; Sauvage has divided it into twelve species; but if he had chosen to consider each variety of the figure, the contents, and duration of the eruption, as a distinct species, he might have made upwards of a hundred. In fact, the variety is indefinite: for sometimes the complaint is so gentle, that the symptoms elude almost medical research, and even the patient is insensible of the disease. While at other times it commences like a hurricane, and infants are swept off in convulsions. But should the first storm be sustained, a most malignant fever ensues, attended with severe pain, vomiting, diarrhœa, sanguine urine, profuse sweats, chilling rigors alternating with burning heat, thirst, and delirium. Frequently a transient alleviation of the symptoms raises false hopes of a favourable issue: but after a short respite, the disease returns in a more terrible form, and destroys at once, or gradually wastes down, the wretched victim.

Besides these extreme cases, the Small Pox assumes a thousand intermediate appearances.

Nor is the character of the eruption less multiform. For there are on some occasions only a few scattered pimples, the number decreasing to two, three, or one. Indeed some authors, among whom was Boerhaave, conceived that the malady might take place, without a single spot breaking out. Whereas in other instances the whole surface of the body, together with the inside of the nose, mouth, and throat, are thickly studded with innumerable pustules. The contents of the pustules in different cases, also assume every varied form of purulency: being sometimes thick, sometimes thin, viscid, limpid, serous, ichorous, white, yellow, green, red, brown, or even black.

Besides this diversity in the symptoms and appearance of the Small Pox, a new variety has lately been produced in some of those persons who have previously been vaccinated. In this species the antecedent fever is slight, transient, or imperceptible; and followed by a few fugitive pimples, which desiccate and vanish in four or five days. In other instances, the fever runs higher, and the pustules are more numerous: they very rarely however reach the full size of the common Small Pox; and they are almost always accompanied with less inflammation and interstitial tumefaction. The secreted liquid of this eruption is usually thinner, more serous, or less purulent, than the secretion

in the ordinary disease; yet, if employed for inoculation, produces the common Small Pox. The desiccation in this variety begins on the third, fourth, fifth, or sixth day; and, owing to the thinner consistence of the secretion, the crusts are small and quickly drop off.

But in some very uncommon deviations from the usual course of events, this disease has taken place with excessive vehemence, and has been followed with a most numerous or confluent eruption, which in a few very rare instances has even proved fatal. Except, however, in these last unfortunate cases, the symptoms of the Small Pox in those who had previously been vaccinated, are considerably milder, than in those who are equally covered with pustules of the primary kind. And at the height of the eruption, which is sooner than common; instead of a renewal of the fever, and the accession of dangerous or fatal symptoms, the malady takes a favourable change, and the patient becomes quickly convalescent. In these cases, the body is soon cleared of the crusts; there are rarely pits, nor do the eyes suffer.

This new species of Small Pox, which has attacked a few of those who had been vaccinated, is analogous to the secondary attacks of that disease which were formerly noticed; it has however occurred much more frequently: but on

a strict examination, it has usually appeared, that the vaccine process had been incomplete or interrupted. In one of the fatal cases above noticed, only one vaccine vesicle had been excited, which was afterwards punctured for lymph. But the possibility of an unfortunate exception to a general rule ought never to be denied.

The effects of the Vaccine upon the living body are less virulent, yet regulated, in most respects, upon the principles which are common to all the other morbid poisons. But the reciprocal control, which vaccine lymph and variolous pus maintain over the actions of each other are peculiar to them.

The local effects of Vaccination are usually these:

After twenty-four hours the punctured point begins to inflame, and there gradually arises a small vesicle with a regular rounded edge, which contains in little cells transparent lymph. About the ninth day an inflamed areola, with tumefaction and hardness, forms around the turgid vesicle. On, or near, the eleventh day, the inflammation begins to decline, and as it fades, it often leaves one or two concentric red circles, which continue, for as many days, visible. The fluid in the vesicle then grows muddy, darkens, and desiccates into a mahogany-coloured crust, which drops towards the

end of the third week, and leaves a superficial eschar.

After variolous inoculation, inflammation commences, reaches the acme, and declines very nearly at the same periods. But the greater virulence of this poison excites a higher stage of inflammation, and produces a suppurating pustule with a stellated edge, which is larger, and longer in crusting, than the vaccine vesicle.

The scab from inoculation inclines to an amber colour; it is longer in separating, and leaves a deeper scar.

The constitution is assailed near the ninth day, both after Vaccination and variolous inoculation, with fever: but in the former case the symptoms are usually hardly perceptible, and in the latter they are frequently alarming.

About the tenth day of variolous inoculation, the virus commonly produces a pustular eruption, and an infectious vapour issues from the patient, contaminating the atmosphere all round. Neither of these consequences proceeds from the Vaccine. For in this disease the power of infecting is confined to the liquid secreted in the vesicle, which only acts when applied to a wound. And though no eruption usually occurs, in some rare instances, a rash or a few red spots appear for a day or two upon the skin, at the time which corresponds with the breaking out of the Small Pox pustules.

It was formerly noticed, that during the variolous disease, as well as during several other infectious fevers, the constitution acquired an insensibility to these morbid poisons. The same law also applies to the Vaccine: but it is most singular, that the Vaccine and the Small Pox infections should reciprocally obviate the irritability of the constitution to each. Hence all persons, with a very few exceptions, after passing through either the Small Pox or the Vaccine, are for the remainder of their lives insusceptible of both.

This acquired insusceptibility is not, however, so complete, but that some local effect may be excited by insinuating variolous pus or vaccine lymph into a wound.

These infectious liquids are apt always to stimulate the part into which they are inserted, to excite some inflammation, and to produce a pimple of short duration. And the contents of these imperfect vesicles or pustules, possess the specific quality of the infection which produced them. In general this local irritation is very trifling, and ceases in a few days: but in other habits the effect is more considerable, and may be re-excited, as often as vaccine lymph or variolous pus is applied to a fresh wound.

On these occasions hardly any perceptible constitutional disorder occurs; but there are some

exceptions also to this; and it has sometimes happened, both that the Small Pox has occurred twice to the same individual, and has attacked those who previously had the Vaccine. Also there have been instances of the Vaccine occurring twice; and of a regular vaccine vesicle having been excited in some who had passed through the Small Pox.

When the vaccine and variolous virus are inserted at the same time into a person who has had neither malady, both poisons proceed independently, and excite their specific actions. But when either vaccination or variolous inoculation is performed twice on the same person, with the intervention of a few days, if the first operation succeed, the process advances to its regular termination; and if the second also take effect, the course of this latter infection generally stops when the first has reached the height, and both the vesicles or pustules decline and desiccate together.

The similitude of the effects of variolous pus and vaccine lymph, and their mutual control over each other, render it not improbable that they are only different species of the same genus of morbid poisons: which confirms the expectation, that the Vaccine may prove as certain a preventive of Small Pox, as a single attack of this disease is a protection against a second. But this is strenuously denied by the opponents

of Vaccination, who allege that the number of cases in which Vaccination has failed in completely preventing the Small Pox, exceed the proportion of those in which the Small Pox occurs twice.

In making this estimate, however, an error has been committed, by comparing the results of the primary practice of Vaccination, with those of the most improved state of variolous inoculation: forgetting that when the latter operation was introduced, failures of every kind were far more frequent than of late; and that even the deaths amounted in early practice to one in fifty cases *.

In like manner Vaccination, on its introduction, was sometimes so misconducted, that two children in a workhouse were actually destroyed by it; although, when skilfully practised, it is really less dangerous than opening a vein, or even cutting a corn. A multitude of lesser mistakes were then committed by the ablest men of the profession; who, deceived by analogy, imitated too closely the plan of Small Pox inoculation: and many were not sufficiently aware, either of the deteriorations to which vaccine lymph is subject; or of the mischiefs which arise, even when the lymph is pure,

*. Vide History of the Small Pox, by the Author, p. 235, 236.

from the vaccine process being imperfect, interrupted, or disturbed by violence or disease.

The number of failures from all these sources of error in early practice, have been considerable. It is therefore too soon at present to compute and compare the number of cases in which Small Pox has occurred after inoculation and Vaccination.

The latter practice has been even brought in a very few years to such a degree of perfection, that in competent hands the failures are extremely rare. In the year 1813, a Report was published by the Imperial Institution of France, stating that 2,671,662 subjects had been properly vaccinated in France, of whom only seven cases had afterwards taken the Small Pox; and it was added, that the well-authenticated instances of persons taking the Small Pox after variolous inoculation are proportionally far more numerous. The French medical reporters had not however sufficient grounds for this conclusion, especially as more of the vaccinated might afterwards contract the Small Pox.

In England no registers have been kept of so vast a number; but the success of some charitable institutions proves, that when Vaccination is properly conducted, there will be very few failures. In the Foundling Hospital of London, this practice was introduced in the year 1801; and though the children are sometimes

intentionally exposed to the infection of Small Pox, yet in sixteen years only one slight case has occurred, in which a variolous eruption was suspected. In the York Military Asylum there has been the same success. The National Vaccine Establishment was founded by Government in the year 1809; and in eight years, to January 1817, there had been vaccinated by the surgeons of that institution in London and its vicinity 34,369 persons. And although the Small Pox has been constantly prevalent, yet at that period only four of the above number were known to have contracted the Small Pox, which is about one in 8592 cases; and in those four the disease appeared in a mitigated form, without danger.

From these authentic facts it is quite certain, that failures of Vaccination when the process is regular, and the constitution fully influenced, are exceedingly uncommon: and as the vaccine and the variolous infection coincide in so many points, it is perhaps safe to conclude, that the former will never fail to prevent the Small Pox, except in those very rare and peculiar habits which are susceptible of contracting the Small Pox oftener than once.

But, however clear the doctrinal points may be, their application to particular cases is frequently attended with insurmountable diffi-

culties; for, who is there that knows with absolute certainty any disease?

The genius of the ancient physicians struck out compendious descriptions of diseases; and modern nosologists have arranged them into comprehensive classes, and subdivided them into individual species, imitative of the systems of naturalists. Both these plans have been useful, though both are defective; for no disease has been so skilfully designated, as to be always distinguishable from every resembling malady.

The occasional similitude of the Small Pox and Chicken Pox has been pointed out; and an attempt towards a more complete discrimination will be made in the subsequent chapter. But when all the varieties of the primary and secondary attacks of these diseases are considered, and when to these are added, the modifications subsequent to complete and incomplete Vaccination, the difficulty and impracticability of ascertaining the precise nature of some eruptions must be obvious. Inoculation from the fluid of doubtful cases, has been proposed as a decisive experiment. But the point cannot always be determined even by this operation: for, in some instances, an uncertain eruption has been produced, or the operation has failed, and the specific disease has remained undecided.

Full advantage has been taken by many of the enemies of Vaccination, of every ambiguous

eruption which broke out on any person who had previously been vaccinated: and the distemper is usually pronounced by them to be either the Small Pox or a humour excited by the Vaccine. It happened to me one morning to hear of a failure of Vaccination, and that the sufferer was lying dangerously ill of the Small Pox. I met the attending apothecary at the house, where we found the patient, a little boy, playing about in a room with a slight papular eruption, which was desiccating on the fourth day. I asked the mother whether any child in the neighbourhood had lately been affected with the Chicken Pox. But before she could reply, the apothecary sternly demanded, "if I was "one of those who believed that the Vaccine "could prevent the Small Pox?" I quietly owned that I hoped so: on which he vociferated, "that the Vaccine was the vilest imposition "ever introduced into physic; and he would "give his vote for all the inventors of it being "hanged." Who these criminals were, and how many he proposed executing, were questions that could not prudently be put to this irascible gentleman.

Persons of this class are apt to lament, with overstrained concern, the number of failures of Vaccination, which are chiefly created by their practising variolous inoculation. Besides, the more they are, the more are the motives for sup-

pressing that deleterious operation: for, as long as it is tolerated by the laws, there will probably be knaves to perform, and fools to submit to it: by which the atmosphere will be retained in a state of pollution, and an infectious disease perpetuated, that all are naturally susceptible of contracting once, some oftener, and also a few after Vaccination.

CHAP. V.

OF VARICELLA, OR THE CHICKEN POX.

The Small Pox and the Chicken Pox are two distinct specific diseases, which have no influence over each other, yet their similitude is such that they are frequently confounded. Dr. Willan * declares, that in six years he saw seventy-four cases of Chicken Pox, which had been mistaken for Small Pox occurring after Vaccination. The frequent controversies upon this subject, and the declension of Small Pox, have brought the Chicken Pox now into conspicuous notice, which formerly had been slightly considered.

It cannot be precisely ascertained in what age Varicella first arose: but there are expressions in the early Arabian authors which seem to allude to it; and, as it was their usual doctrine, that the Small Pox sometimes attacked individuals repeatedly, this is a strong presumption that Varicella was included.

* On Vaccine Inoculation, by Robert Willan, M. D. F. A. S. &c. 1806. p. 84.

Rhasis, for example, mentions " a slight " Small Pox *," and observes, " that it was pos- " sible for the Small Pox to occur twice or " thrice †."

After this disease crossed the Mediterranean, the European physicians maintained the same opinions.

John of Gaddesdon ‡ divided the Small Pox into proper and improper: by the latter he probably meant Varicella. But in the ages of servile imitation, little improvement was made by a long succession of authors.

At length, in the sixteenth century, when the Italians were venturing to think a little for themselves, Varicella was beginning to be discriminated, and had acquired a vernacular appellation; for Vidius, a Florentine physician, very clearly distinguished the Chicken Pox from the Small Pox §: he describes the vesicles as

* " Levis Variola." Rhasis de Variola. Rich. Mead. M. D.

† " Et possibile est quod Variolæ accident bis, vel ter," Contin. Rhasis, lib. xviii. cap. 8.

‡ Rosa Anglica, Johan. Anglic.

§ " Sunt qui præter duas species (Variolas et Morbillos) " quas commemoravimus, crystallos adjiciunt, sic enim ap- " pellant quasdem veluti vesiculas plenas aquæ instar crys- " talli splendentes, quibus cutis variis locis distinguitur, has " nunc vulgo nominant Ravaglione." Vide Vidii Florent. Oper. tom. ii. De Curat. Generat. lib. vi. c. 6.

having a crystalline appearance, and notices that the malady was named by the vulgar, Ravaglione.

Ingrassias, a Sicilian physician, who flourished nearly at the same period, stated, that, besides the Small Pox and Measles, there was an eruption called in that country Rossanium, or Rossalia, and another called Crystalli*. The first of these was probably the Scarlet Fever, and the second the Chicken Pox. At least, it is probable that the latter was not any species of Small Pox. For, he observes, that he has found by experience, when only a few Small Pox pustules have broken out, that this distemper is apt, though rarely, to recur a second time, and even, in some instances, a third time.

The learned, not aware that the eruption was specifically different, and scorning to adopt the names of the vulgar, invented a variety of their own; such as the spurious, the dwarf, the volatile, the lymphatic, and the crystalline Small Pox, all which have been exploded in succession.

* "Præter quas ambas species (Variolas et Morbillos) "et alias duas passim advenire conspeximus. Quarum alte"ram nostri Rossanium, sive Rossaliam vocant, alteram vero "Crystallos. Utramque harum vul"gares, et ejusdem generationis cum Variolis et Morbillis ex"istimant." Joan. Phil. Ingrassiæ Sicul. de Tumoribus præter Naturam, tom. i. tract. i. cap. 1.

Sidobre, who practised at Paris in the seventeenth century, endeavoured to reconcile the contradictory opinions of different physicians, by stating, "it is certain that the Italians, Spaniards, Portuguese, and inhabitants of the south of France, had, for the most part, the Small Pox only once in their lives; but that the northern people, such as the Swedes, Danes, English, and even the Parisians, were often attacked with the Small Pox three or four times *."

The medical works of Riverius, of the same age, show, that the knowledge of Varicella was advancing. He remarks that, independent of Small Pox and Measles, "there is a third species of eruption common among boys, the pustules of which are similar both in size and figure to Small Pox. They may, however, be distinguished by Small Pox pustules breaking out with redness and inflammation; whereas the others are white, like vesicles, and are filled with a serous liquid. These break in three days, then desiccate: they are usually without danger,

* "Postremo certum est Italos, Hispanos, Lusitanos, ipsosque Occitanos semel tantum in vita Variolis ut plurimum laborare: Septentrionales vero populos Suecos, Danos, Anglos, imo et Parisinos, bis, ter, quaterve sæpe infestare." Antonio Sidobre, Tract. de Variolis et Morbillis. 1699.

" and, for the most part, are ushered in without " fever. French women usually call this erup- " tion La Verolette, and the Italians Rava- " glione *."

Sydenham, though no great reader, was too keen an observer to pass entirely over this complaint. He noticed it " as an adulterine " species, which neither belonged to the genuine " Small Pox, nor prevented it †."

Richard Morton rather retrograded in the knowledge of this malady; for he treats it as a mild species of Small Pox ‡.

He remarks however, that in the English idiom it was called the Chicken Pox; which is the earliest authority I have found for this name. There are, besides, other appellations which have been given to this disorder by the vulgar in Eng-

* " Est et tertium pustularum genus pueris familiare, " Variolis simile, quoad magnitudinem et figuram: sed in eo " ab iis distinguitur, quod Variolæ cum rubore et inflamma- " tione appareant: hæ vero albæ sint, et veluti vesiculæ " seroso humore repletæ, quæ inter triduum disrumpuntur, " et exsiccantur, nullumque afferre solent periculum, et " plerumque sine febre erumpunt. Id pustularum genus à " nostratibus feminis la Verolette nominari solet; ab Italis " Ravaglione." Riverii Oper. Lugd. p. 461.

† Thom. Sydenham. cap. ii.

‡ " Variolæ benignæ (nostro idiomate Chicken Pox)." Altera Pars: sive Exercit. de Febrib. Inflam. Univ. Richard Morton.

land: as, the bastard Small Pox; and in Cumberland, the Waterjaggs *!

The Scots adopted the name Chicken Pox; but having observed, that some few persons, after having had both what was designated Small Pox and Chicken Pox, were yet subsequently attacked with other pustular eruptions, they invented for these disorders the names Swine Pox and Hives.

The Germans have invented more names even than the Scots; for they have the Schaffsblattern or Sheep Pox, the Steen Pokken, Water Pokken, and Wind Pokken †.

Notwithstanding this variety of names, there are probably only two specific maladies, the Chicken Pox and Small Pox. And the occasional recurrence of both is the most probable explanation of many singular cases related by authors of the highest respectability. Diemerbroek, for example, observed some cases where the Small Pox had recurred thrice to the same individuals, in the short space of ten months ‡. Burserius likewise asserts §, that not a few per-

* Medical and Physical Journal, vol. xiii. p. 58.

† Vide Dan. Sennert, tom. i. Van Swieten, Comment. tom. v.

‡ Diemerbroek, tom. ii.

§ "Nam certissimis ex factis observationibusque medicorum probatæ fidei, et summæ auctoritatis, cognitum est "non paucos, qui tam spontaneas, et naturales aut insititias

sons have suffered the Small Pox a second and a third time. Borellus relates the case of a woman who had the Small Pox seven times, and died of the last attack †. It is natural to conclude, that some of the attacks in these cases were Varicella.

At length, in the year 1767, Heberden ‡ drew up a brief account of the Chicken Pox, describing it as a specific infectious disease quite distinct from the Small Pox; which may be considered as the basis of our knowledge on this malady. Dr. Willan ‖ enlarged and improved upon Heberden's description: but it will probably require the talents of many to finish it. For, until lately, the Chicken Pox was passed over as an indisposition so slight as hardly to require a physician's attention. Thence the older writers never honoured it with a separate section: and Heberden, who

" artificialesque, et quidem veras et legitimas pertulissent " secundo et tertio in easdem incidisse." Instit. Medicin. J. B. Burserii, vol. ii.

† " Vidi etiam qui bis et ter imo in senectute ea (Variolæ) " cruciati fuere; sed nil adeo circa hæc notandum occurrit, " ac mulier quædam Bonnonicnsis Gallæ quæ septies eas " passa est, et anno centesimo et decimo octavo tandem " eodem morbo periit." Pet. Borelli Medic. Historiæ et Observ. Cent. iv. Cent. iii. Observ. x.

‡ Medical Trans. College of Physic. London, vol. i.

‖ On Vaccine Inoculation, by Robert Willan, M. D. F. A. S. &c. &c. London, 1806, p. 86.

first treated it with this degree of respect, imagined, that the pustules in this disease were limited to about two hundred. But it is now ascertained that this distemper, like all others, assails various persons, under different circumstances, with various degrees of violence; and cannot be circumscribed within very narrow bounds. The extensive experience of Willan had brought to his view cases, where the vesicles were so numerous as to be close together; though he adds, "seldom confluent *." And Mr. Ring has related a case †, and illustrated it with a coloured print, of confluent Varicella.

There is, besides, always floating in great cities, especially in the capital, a number of new medical observations, which have not found their way into books. These circulate among the profession, until they are either confirmed or rejected by experience: but while under this trial, prudent writers are cautious of admitting these unsanctioned novelties into their works. This is instanced in the present rising knowledge of Varicella. Several old physicians have assured me of their having seen a few cases of Chicken Pox quite different from any written account. The fever which arose was of the

* On Vaccine Inoculation, by Robert Willan, M. D. p. 93.

† Medical and Physical Journal, 1805, vol. xiv. p. 141.

most alarming kind; and the subsequent eruption excessive, and undistinguishable from the Small Pox. These cases had however been ascertained to be Chicken Pox by finding out the character of the infection which was the cause, by the effect it produced on others, and by the sufferers having previously had the Small Pox.

I had an opportunity of seeing a case of this kind, in which the fever was highly inflammatory*. The pustules at the sixth day were large and purulent. On the face they were so crowded, that several clusters were confluent; and the body and limbs were thickly studded. On inspection, several physicians pronounced the disease to be the Small Pox; yet a number of circumstances clearly proved to the satisfaction of others, that it was Varicella. The patient was a school-boy, and seven of his school-fellows, who lived under the same roof and sported in the same play-ground, were all attacked with the same symptoms of fever in the course of two days. Three of those boys had previously had the Small Pox; the five others had been vaccinated, and none of them had before had the Chicken Pox. In seven this malady proved to be Varicella in its usual mild

* Reported to the National Vaccine Establishment in the year 1815.

form: and consequently it must be concluded that the specific infection was the same in the eighth, although he was affected with so much greater severity.

The justness of this inference was corroborated by letters from the parents of some remaining boys in the same school, who were not infected, mentioning that they had already gone through the Chicken Pox.

Events like this evince, that Varicella is still imperfectly discriminated from the Small Pox.

It is obvious that no mistake can be made, when this latter disease assails with all its terrors. For the skin is then affected with erythematous inflammation and a confluent eruption; the features become swollen, the eyes closed, and the face resembles a hideous mask; while there exhales from the person an odour, like that of a putrid carcass. This terrible disease, instead of declining towards the tenth or eleventh day, augments; the symptoms rise higher than before; and when the patient survives, his danger is hardly over at the end of three weeks.

All medical men would at once recognise such a distemper as the above, nor could they err in Varicella, when, after a moderate headach, feverishness, and listlessness, a few crystalline vesicles arise, which on the third day break, become shrivelled, and crust. But the difficulty

is, to distinguish the Small Pox of a milder and mitigated form, from the most violent species of Varicella; and this sometimes demands the nicest observation.

The symptoms and duration of the previous fever in both maladies are nearly the same. And although the fever of the Small Pox is generally incomparably more violent, than that of the Chicken Pox; yet when the Small Pox is mild, and the Chicken Pox severe, the reverse is the case: for vomitings and delirium occasionally occur in Varicella, and the eruption is sometimes ushered in with convulsions.

Heberden, in enumerating the symptoms of Varicella, mentions a cough, as sometimes attending it. Willan corroborates this, and adds to the cough the epithet severe *.

This is a symptom no way belonging to Small Pox; it seems to indicate, that the bronchiæ are apt to be affected in the Chicken Pox, and may therefore be considered as an occasional discriminating symptom. A salivation and bloody urine occur not very unfrequently in Small Pox; but these symptoms have never yet been mentioned as taking place in Varicella.

The fever of Small Pox, when the disease is

* Vaccine Inoculation, by Robert Willan, M. D. &c. p. 86.

distinct and moderate, abates, and often ceases on the first or second day of the eruption. But as in the severer cases of Varicella, the eruption is thrown out in successive crops for two or three days, the fever does not remit in these instances so early by one or two days at least.

When the pustules of the Small Pox are numerous, especially on the face, the fever generally recurs at the height of the eruption: but in Varicella, after the fever has remitted, it rarely, if ever, returns.

Dr. Heberden certainly described well the ordinary appearance of the Chicken Pox pimples: but Dr. Willan inspected the various kinds with a magnifying lens, and divided them into lenticular, conoidal, and globate, which he conceived formed three varieties of Varicella. As, however, vesicles of all these shapes, and even of others, are sometimes seen in the same patient, they probably proceed from no difference in the infection; but from accidental varieties in the state of the skin, and in the degrees of inflammation.

Both the above authors, in describing the progress of Varicella, have detailed some circumstances in which this eruption differs from, and some in which it resembles, the Small Pox; but have given no principles explanatory of them: which, if it can be done, will greatly facilitate the discrimination.

Each regular, distinct, Small Pox pustule is a small, but true, phlegmon, and attended with all the usual effects of the suppurative inflammation.

The eruption generally commences on the face and body, and extends on the following day to the extremities.

It begins by minute red points, each of which is a spot of inflammation that breaks out on the surface, and descends a little into the substance of the cutis: by the enlargement of the blood-vessels, and by the effusion of coagulable lymph, a small round tubercle, hard to the touch, and painful when pressed, is formed. As the inflammatory action proceeds rapidly, each pimple augments, and is surrounded with a crimson circle; when sometimes on the second, but oftener on the third day, there may be seen on the centre a little semi-pellucid point, and the rest is red and tumid. The vesicular appearance of the pimples is occasionally of a limpid, and at other times of a pearl colour; it extends gradually in breadth, and on the fourth day it occupies the whole front of the tubercle, the centre of which is depressed. This concavity is produced by an adhesion of the cuticular membranes to the inflamed cutis, in consequence of the effusion of coagulable lymph; which also forms a cyst to confine the matter, and thickens the rete mucosum and cuticle. The depression

is not observable on all the pustules, especially on the smaller ones.

The liquid of the eruption is gradually changed from a serous to a purulent secretion: on the face and body, where the inflammation is most vivid, it generally is converted into common pus; but on the extremities, where the inflammation is less active, the contents of the eruption continue often rather serous.

About the fifth or sixth day, the pustules rise to a hemispherical shape; each of which is commonly surrounded with a red circle; and, when there are many, the intervening skin often acquires a damask tint. And as this is accompanied with the interstitial effusion common to phlegmonous inflammation, some general swelling takes place; which is conspicuous on the face, by enlarging the features and shutting the eyes.

On the eighth day of the eruption the pustules are at the height, and some matter frequently oozes out from many of these little abscesses. A dark spot then appears on the top of each, and the pustules in two or three days more are converted into brown scabs. The interstitial swelling subsides from the period the eruption has acquired its acme.

As the pustules on the extremities are frequently one day later in appearing, they are

likewise a day, at least, later in desiccating; sometimes, indeed, several days: for, their contents being more limpid, they do not quickly coagulate. Occasionally it happens, that the fluid is entirely absorbed, and, instead of a crust, an empty cyst remains.

There is another variety, when the pustules are very small, and the inflammation declines early, the matter coagulates, and forms what has been termed the horn or warty Small Pox.

The eruption of the Chicken Pox commences also with little red spots of inflammation of the phlegmonous kind; yet, in its ordinary form, it proceeds in a manner essentially different from that of the Small Pox.

It usually first breaks out on the body and face, and then spreads to the extremities. And there is frequently a succession of fresh crops of vesicles, for two or three days; which are often mingled on the same parts of the body, and all of which go through the same stages, and lengthen the duration of the malady.

The inflammation which seizes the superficies of the cutis, is neither so intense, nor does it penetrate so deeply, as in the Small Pox; and consequently each little tubercle is smaller, flatter, and less painful, than in the Small Pox: but a more remarkable distinction is, that, even on the first day, a minute vesicle may usually be

seen. For, in Varicella commonly it is merely the surface of the cutis which inflames; and little or no coagulable lymph is effused to thicken the cuticular membranes; and a serous secretion, the product of cutaneous inflammation, is poured out under the rete mucosum, almost with the rapidity of a blister. Little vesicles are therefore quickly formed, more pellucid than in Small Pox, and surrounded with inflamed borders, of various breadths. On the second day the vesicles are larger, but neither concave, clouded, nor hedged around with coagulable lymph. But as they fill, the liquid separates the rete mucosum and cuticle from the cutis; and as one side sometimes yields more easily than another, the vesicles occasionally become oval, or lenticular, or in some degree irregular. Often, however, they retain a regular round figure, but not so constantly as in the Small Pox.

On the third or fourth day, the cuticular coverings of the vesicles, not being strengthened with coagulable lymph, are apt to break of themselves, or from accidental friction. When broken, the vesicles appear somewhat shrivelled, and little dry scabs form; but others enlarge and suppurate. The colour of the liquid contained in the vesicles is various; depending upon the degree of inflammation. It is usually at first clear, and afterwards whey-coloured, or

milky: at other times it becomes yellow, purulent matter.

The vesicles of the Chicken Pox at the third and fourth day are nearly of the same size as those of Small Pox at the same period; but, in common cases, instead of enlarging more, they then decline. As the Chicken Pox frequently breaks out in two or three days in successive crops, which are mingled together, and all of which go through the same progress; when the eruption is examined on the fifth and sixth day, its appearance is variegated by vesicles in various stages; some very little elevated, others filled with a serous, a white, or a yellow liquid; and many are broken, shrivelled, crusted, and vanishing.

In the Small Pox, at the same period, the eruption is much more uniform; though the pustules on the face, and sometimes those on the body, are a day forwarder than those on the extremities. The interstitial swelling, being proportioned to the violence and duration of the inflammation, and to the quantity of the eruption, is, therefore, in general much less in Varicella, than in the Small Pox.

These distinctions are sufficiently clear in well-marked examples of Small Pox and Chicken Pox. But the former malady is sometimes peculiarly mild, and the latter extraordinarily violent, which obscure all the discriminating marks.

For, when the Small Pox is mild, and when the eruption consists only of a few scattered pimples, the inflammation is slight, and the pustules appear to be arrested in their course, and quickly to decline, or desiccate.

And besides this mild species of Small Pox, a new kind has lately been observed in persons who had previously undergone Vaccination. In most cases of this eruption, there were reasons for suspecting that the vaccine process had not been so complete as to have saturated the constitutions of the patients with the preventive. Yet the Vaccination, such as it was, though not adequate to the entire prevention of the action of the variolous infection, was sufficient to weaken its malignity.

I have seen a number of these cases, which occasioned a superabundant alarm to parents, and considerable astonishment to the medical profession. The malady neither proceeded according to the regular course of Small Pox, nor of Chicken Pox; but appeared like a new and intermediate eruption.

This mitigated disorder commences like the distinct Small Pox, but usually with a more moderate fever. The eruption is less vividly inflamed, and the vesicles assume often a crystalline appearance; yet still they retain a portion of the variolous character, as some acquire the central depression, and their coats are too

strong to break and shrivel upon the third or fourth day.

When the eruption proceeds to the fifth and sixth day, the pustules sometimes rise to the hemispherical shape, and are then hardly distinguishable from the common Small Pox. Their contents are, however, usually thinner, as if the pus was mixed with serum. The interstitial effusion is also inconsiderable; and, therefore, even when the eruption on the face is numerous, very little swelling occurs, and the eyes are not closed up.

But the most striking peculiarity of this variolous affection is, the shortness of its duration. In most instances the pustules begin to desiccate on the third or fourth day; in some, however, not till the fifth or sixth: and there have been a few very rare instances, where the eruption was confluent, in which it did not reach the acme until the eighth. But even in these cases no secondary fever ensued, and all the symptoms and vestiges of disease vanished with remarkable rapidity, leaving few or no pits.

As, however, there are exceptions to every law, two authentic cases have been reported to the National Vaccine Establishment, in which the Small Pox, subsequent to Vaccination, absolutely proved fatal.

But we may rather wonder, in the beginning of Vaccination, at the infrequency of such

calamities, than be astonished at these two unfortunate events; for, the Small Pox is sometimes of a malignity, which nothing can withstand; as the second attack of this pestilential infection has on some occasions been mortal.

No example has been recorded of Varicella actually destroying life; but when it puts forth all its fury, the usual appearance is as much changed, as the mild and mitigated Small Pox are apt to be, when in their gentlest mood.

When Varicella is violent, the inflammation is active, the vesicles run into suppuration, they are enlarged and protracted; and consequently their discriminating marks are confounded.

Yet if the disease is seen from its commencement, a minute observer may, in almost every instance, detect some of the peculiar signs.

One of these is the disposition to break out in a number of successive crops, which are mingled with each other, and advance in some degree independently. And although the increased inflammation is accompanied with some effusion of coagulable lymph, which disguises the common appearance of the Chicken Pox; yet, if the eruption is accurately inspected, it will probably be found, that some of the vesicles form earlier, and have a more pellucid colour, and a less regular shape, than the variolous eruption. Should the eruption proceed to the fifth and sixth day, and should many of the pustules

then assume the form of Small Pox; still there may probably be observed a variegated appearance proceeding from the successive crops: one portion of the eruption being only in the vesicular, another in the pustular stage, and a third crusting; and all this variety in the same parts of the body.

If a case of Varicella should arise, in which none of those peculiarities could be perceived; and in which the eruption, from its commencement until its termination, was undistinguishable from Small Pox, some light might be obtained by attending to the constitutional symptoms. The most remarkable of these is a cough, which has nothing to do with Small Pox; and when the Chicken Pox is severe on the eruption taking place, there is little or no remission of the fever; which continues, during the successive crops of eruption, for two or three days.

In doubtful cases, an important point is to discover, if possible, the nature of the disease, in those who communicated the infection; or in those to whom it may have spread. Even inoculation is sometimes had recourse to: but as this is an experiment which may be attended with fatal consequences, it is unjustifiable; especially as the motive for incurring this risk is curiosity, rather than utility.

It is also well known, that there is in every art (and surgery is not excepted), a skill ac-

quired by practice of discriminating shades of appearances too fine to be described by words. But if it should be peremptorily demanded, may not an eruption occur, the specific nature of which can neither be positively ascertained by any of the signs which have been detailed, nor by the most experienced observer? the possibility of this must be admitted; for there are deceptious cases in Varicella, in Small Pox, and in every other disease, which baffle all human judgment.

There are, however, medical gentlemen whom no difficulties appal, and who know that confident decision passes on the world for knowledge; although doubt is usually more appropriate to the present state of physic.

A few years ago my opinion was asked rather late upon an equivocal eruption, which a little boy had contracted in the neighbourhood of London. The attending apothecary had taken unusual pains to ascertain the disease; but neither he nor I were quite clear upon the point.

The parents being anxious, another surgeon of considerable notoriety was sent for. He arrived; and, being in haste, requested to see the patient without delay. He was immediately ushered into the sick chamber, and went up to the bed; he looked for a moment at the boy's face, and at one arm, which was uncovered; then, without putting a question, or hearing a syllable,

he gravely pronounced, that " the disease was " undoubtedly the Small Pox."

The mother of the boy, the nurse, and nursery-maid, were all struck with his instantaneous discernment, and despised the apothecary and myself, as very inferior beings.

CHAP. VI.

THE RECEPTION OF THE VACCINE WITH THE PUBLIC IN ENGLAND.

NOTWITHSTANDING the decisive proofs of the reasonableness of substituting Vaccination for variolous inoculation, which have been set forth in the preceding chapters, universal approbation was not to be expected. Discrepancy of opinion attends all innovations, both those that are meliorations and deteriorations; nor can this be prevented by any accumulation of arguments. There are two contending principles, which have more influence with the bulk of mankind than reason: the one is an attachment to ancient customs; and the other is a love of novelty. Both these have great sway with different persons, under various circumstances; and are in direct hostility with each other. The first is the more general sentiment: its operation is more constant; and it prevails especially with the uncultivated and aged, exciting an aversion to all changes: whereas, the love of novelty is a more transient passion, which springs up occasionally, and chiefly agitates juvenile minds, and those of the higher ranks. But the judicious are guided by more rational

motives, and neither follow unthinkingly the invariable track of invetcratc, habit, nor pursuc inconsiderately the glittering bubbles blown up by every fantastic projector. Though this class of human beings is fcw in number, their superiority of intellect gives thcm a great ascendency over thc public. If unitcd, their dccisions could never be long rcsistcd; but it is often the intcrest of those who guide, to deceive; and some are apt to yield to this temptation. A violent collision of these opposing causes, and a varicty of effects, were produced by the discovery of Vaccination. Thc sanguine and volatile, transported at the first report, scoffed at, or praised it; spurncd it back, or pushed it forward, without examination; while the phlegmatic and unteachablc, either prescrved a sluggish inertness, or continued in their wonted track.

But the more judicious and instructed portion of the community began by an inquiry into the subject: and, after they were convinced by sufficient proofs of the utility of Vaccination, they adopted it in their own families, and recommendcd it to others with thc authority that belongs to learning and wisdom. This especially was the conduct of thc most cminent of the medical profcssion, and a large majority of the remainder followed their example; which was donc undcr the impression, that to expunge from thc list of discascs one which uniformly

afflicted every individual once, must decrease their income.

Unfortunately, there were a few, and most of them needy practitioners, who would not acquiesce in this sacrifice; and, besides, they perceived, that, should all the distinguished professional gentlemen decline variolous inoculation, whatever remained of this branch of business would devolve upon them; and by this means they might emerge from obscurity, and acquire practice. Excited by these tempting motives, a tribe of medical men soon declared themselves enemies of Vaccination, and admirers of variolous inoculation. Ignorance might have misled them at first; but those who persevered after multiplied proofs, could plead no such excuse; neither did they. On the contrary, they boasted of their hatred to the Vaccine, of their love of Small Pox inoculation, and of their uniform success in this practice.

These emphatic declarations, from their singularity, attracted notice, and were soon productive of pecuniary advantages. Whatever human feeling might before have lurked in the breasts of the anti-vaccinists, was then extinguished; and they disseminated without remorse the infection of Small Pox through the thickest population. These men were instantly shunned with aversion by their former associates: they

were necessarily compelled to view scenes of a deplorable disease and death, of which they were the authors; and to hear bitter imprecations from the parents of dying infants. But all, for slight gains, was endured, and braved with effrontery.

It is remarkable that the opposition to Vaccination was much more violent in England, where it was discovered, than in other countries: yet no one can suspect that this proceeded, either from the inferior knowledge, or superior rapacity, of Englishmen. It was certainly occasioned by the political freedom of Great Britain permitting empiricism, and many species of impostures, to flourish; which are either restrained or suppressed by the more rigid laws of other states. The facility of controlling evils, and of punishing knaves, in arbitrary governments, is some compensation for the loss of the blessings of liberty.

It was principally in London, where freedom is often alloyed with licentiousness, that the greater number of anti-vaccinists resided; for, the immense size of the capital renders it the most convenient resort for those who acquire their livelihood by injuring their neighbours. It gives ample scope for fraudulent practices; which, even when detected, cannot be made known to the whole of so vast a population. Great exertions were, however, made to en-

lighten the public by the friends of Vaccination. The objections of its detractors were refuted, their misrepresentations exposed, and their conduct derided. All who listened to the proofs, and were capable of comprehending them, were soon convinced of the utility of the new practice; but the difficulty was with others, a large proportion of whom could not read. It might have been hoped that this deficiency would have prevented their being tainted by the wretched sophistry abounding in the ephemeral pamphlets of Rowley, Birch, Moseley, Squirrel, and others. Yet multitudes of the illiterate became their proselytes; being converted by the innumerable reported cases of vaccine failures, and of the horrid effects of the bestial Cow Pox humour, which were repeated from mouth to mouth. These tales were listened to with greedy ears, and oft corroborated by the parents of scrofulous and herpetic children; who were consoled by the belief of an extrinsic cause for these disorders. But there remained a large mass of the people who were too insensate to be actuated by either party. They could neither be moved to have their children vaccinated nor variolated; but continued obstinately passive, or maintained, with pious stupidity, that they would trust to Providence. Some of the children, thus resigned to the fury of the Small Pox, were deprived of sight; others were disfigured, and many perished. Yet the parents were seldom so much melted, as to treat

their future offspring with greater tenderness: their tears were soon dried up, or too few were shed, to wash out their pitiless dogma. But, in spite of the indocility of the illiterate, and the apathy of those who renounce the guidance of reason, Vaccination was so zealously patronized by the enlightened and benevolent, that it spread over the world with astonishing rapidity. In one year it was diffused through Europe, and, in less than three, reached India and China.

In many parts of the British dominions, Vaccination was certainly cherished with heartfelt kindness; and as the Government, from caution, did not for some time interfere, the encouragement bestowed was entirely voluntary. But it was formerly shown, that at the very outset, when the disinterested were beginning to promote the generous plan of Jenner, Woodville and George Pearson, under the mask of friendship, attempted to purloin shares of the credit. In their haste, however, they had confounded variollous pus with vaccine lymph, spread abroad the former with the title of the latter, described their effects as nearly the same, and brought the Vaccine into temporary disrepute. Jenner, notwithstanding, soon restored its pristine lustre. The pilfered plumes were plucked from the invaders; and nothing was left them but their own artificial feathers. By this exposure, it was

proved that two sources of vaccine virus were sometimes impure, and Jenner was overwhelmed with applications for the genuine fluid. His innumerable foreign and domestic correspondents, by flattering eulogies and unceasing requests, engrossed his whole time; and by packets of grateful thanks, transmitted by return of post, nearly ruined him. But, disregarding all inferior considerations, he felt pleasure alone from the multiplying proofs of the success of his plan, and his labour was gradually alleviated by the exertions of his medical friends.

In addition to the efforts of private individuals, Vaccination in the year 1799 acquired the powerful support of the Commander in Chief.

The Small Pox was a disease which had continually infested the army: for, as recruits are usually the sons of the poor, and are chiefly raised in remote counties, they were rarely inoculated; and in changing their quarters, according to the exigences of the service, they were much exposed to the risk of this infection. When it appeared in a regiment, it usually spread; and, owing to the irregular lives of soldiers, often with peculiar malignity. This being well known to the Duke of York, ever solicitous for the safety and comfort of the troops, His Royal Highness took the proper steps to ascertain, if the Vaccine was in truth a preventive of the Small Pox.

As soon as the Army Medical Board, and other competent judges, had given full assurances and complete proofs that this was the case, a general order was issued to all regimental surgeons to vaccinate every soldier who had not had the Small Pox. By this measure the malady was at once extinguished in the army, and many a gallant soldier preserved.

At this period the army was upon a high establishment; the militia were embodied, and the Medical Staff were numerous. It then became the duty of all military surgeons to learn and to practise Vaccination: and as they were presently convinced of its utility, they recommended it for the children of the soldiers, and of others. Thus every regiment became a centre whence the Vaccine radiated to the people; and the benevolent mandate of the Commander in Chief diffused the Vaccine through every part of the British dominions.

After a short time the Lords of the Admiralty imitated this excellent example. But owing to ships of war being frequently at sea, and seamen being characteristically thoughtless of futurity, and less tractable than soldiers, the Vaccine advanced much slower in the navy. The naval surgeons, however, employed it when in their power, and were as much struck as those in the military service with the advantages

of this discovery; nor has a dissentient voice been heard among either.

The difficulty in finding a ready supply of lymph was, for a long time, a considerable obstacle to the diffusion of the Vaccine. This was partially obviated by some professional gentlemen who undertook to vaccinate gratuitously all who should apply to them. Among these Mr. Ring * was distinguished for his zeal and activity. He vaccinated vast numbers of the poor, and distributed to the friends and enemies of the Vaccine both lymph and sarcasms with equal liberality. It was upon his house in London, that the profession at large chiefly drew for the valuable preventive; and he answered their demands to any amount without interest.

While the practice of Vaccination was increasing and gaining proselytes among all descriptions of persons, the clamour against it became louder and louder, and disturbed the confidence of the public. As very few persons not belonging to the profession, chose to read the arguments on both sides of the question, it was important to make known, who were the approvers and disapprovers of this new practice; that, by comparing the numbers and respectability of each party, some judgment might be formed which side preponderated. For this

* Author of A Treatise on the Cow Pox, and other Works.

purpose, in July 1800, a Declaration was framed, expressing a complete approval of Vaccination, and strongly recommending it in preference to variolous inoculation. This public instrument was signed in a few weeks by almost every medical gentleman of any consideration in London; and its promulgation had a powerful effect. Numberless declarations of a similar tendency were signed and promulgated by the profession in most of the principal cities of England and Scotland; and the nobility and gentry recognised among the signatures the names of all those medical men whom they knew, or whom they had ever heard quoted as eminent for skill or science. These authorities had so much influence, that from this time the children of persons of condition, with a very few exceptions, were all vaccinated.

In places distant from the capital, especially in the British settlements, the influence of the declarations was still greater than at home. For the medical men perceived, that all the professors and masters in the schools of medicine, all whom they strove to emulate, or to whom, in the last emergency, they consigned their desperate cases, gave a decided preference to the new practice. This induced them to try, and success prevented their ever relinquishing it.

The medical declarations were mortifying

blows to the anti-vaccinists, who, from a consciousness of inferiority in all respects, dreaded the ridicule of exposing their names to a counter-declaration. The few with pretensions to character, shrunk from the disgrace of enrolling themselves with empirics, and the sweepings of drug-shops. Dr. Rowley, indeed, spoke of forming a club of his partisans; but from the manifest shame of openly associating with such company, this scheme was also abandoned. Nothing, however, could dissuade the party from persecuting Vaccination. They printed, they prated, and advertised; and the pamphlets they published, and the rumours they circulated, were not universally despised. Many parents were deluded, and multitudes of children variolated.

The female sex, from superior sensibility and fondness for infants, were wonderfully agitated by Jenner's discovery. Under this emotion to deliberate was difficult, to remain passive, impossible. They were decided by the firstlings of the head, and hurried to extremes. The imaginations of many were so much disturbed with tales of horror concerning the Vaccine, that they could not even listen to any proofs of their falsehood: but violently rejected an innocent preservative of their children from pity; and tenderly inflicted on them a dangerous infection from love.

Others of superior sense, or more fortunate in their first intelligence, were transported with the idea of preserving their children's lives, eyes, and beauty, from the dangers of the Small Pox; and became Jenner's ardent proselytes. They passionately extolled the charming invention, and pressed its adoption with sweet importunity. Some country ladies even ventured to make use of the lancet: and resolutely vaccinated every child, whose parents they could prevail on, by insinuation or entreaties, to confide in their skill. As the influence of these amiable practitioners among the peasantry was great, and the purity of their motives unsuspected, flocks of children were carried and intrusted to them, in preference to the village doctors. Apprehensions might naturally have been entertained of the prudence of this conduct: for, if the female surgeons should unwittingly have committed any important error, it might have cost their little patients their lives. But no such event has been bruited; on the contrary it appears, that, from timidity, they were watchful, strictly compliant with prescribed rules, and consequently successful. Whereas some medical men, from carelessness and self-sufficiency, were apt to deviate, and to fail.

While the Vaccine was thus piercing through counties and cities by various paths, it was

sometimes retarded by venal opposition, but oftener by vulgar prejudices. These obstructions were most remarkable in a few towns not distinguished for civilization.

Portsmouth, Portsea, and Gosport, form a triple city, which equals London in dissoluteness, without possessing any counterbalancing refinement.

Poets, who are the closest observers of human nature, have often celebrated the modesty of village maidens; but seldom that of the females of maritime towns. The failings of the latter are not attributable to the inconstancy, or to any wanton quality of the neighbouring element; but rather to the wandering lives of seafaring men. Long and frequent absences are severe trials of fidelity; in which some may stand, but others fall. Chastity, besides, was at that time peculiarly exposed in these busy towns, where the bravest and handsomest of the British youth, clad in warlike accoutrements, were often assembled, either preparing to rush on daring enterprises, or returning triumphantly from conquests. These shining warriors often dazzled those eyes which viewed them too curiously; and the dangers they had passed, often melted hearts endued with too much tenderness. In proportion as instances of weakness multiply, the disgrace lessens, and feminine timidity vanishes. These observations may pal-

liate the darting glances returned on passing gazers, by many Portsmouth damsels; "who "rarely askance, like modest virgins look." Where such morals prevail, and amidst the dalliance and revels of a corrupt and riotous city, the Vaccine was much neglected, and the Small Pox allowed to continue its wonted ravages.

The regrets of mothers for the loss of promiscuously begotten children, cannot be appreciated. Some might console themselves by knowing, that their offspring, neither by education nor example, were likely to be preserved from the surrounding licentiousness.

Bristol, until lately the second city for population in the island, degraded itself also by a strenuous opposition to the Vaccine; which, perhaps, was owing to this ancient seat of an episcopal see having fostered commerce and manufactures in preference to literature. The Bristolians, who pursued wealth exclusively, have only attained what they sought; and they received very coldly a discovery founded on science and dear to humanity. For it must, though with reluctance, be confessed, that some of the medical practitioners of that town declared their disapprobation of the Vaccine, and their decided preferenee to variolous inoculation.

They did not, however, attempt, like the London heretics, to defend those opinions by

their pens, and to scatter their impious doctrines to distant parts: but industriously prosecuted in the true spirit of trade their private gains, and showed no desire to infect any persons with disease, except those who might become their patients.

This was the most prudent, and perhaps the most mischievous conduct; as their arguments might have proved dissuasive. Indeed, Bristol was never a medical school, though frequently a resort for the sick: but the Hot Wells have declined lately, while the cooling springs of Cheltenham have proportionably risen into fashion. It is at this new autumnal abode of Hygeia, that wealthy invalids chiefly assemble; and amongst the thick coverts and shady walks, there has been constructed every convenience which the purifying fountains require. Indeed the assemblage of the sick and fanciful is so numerous, and their thirst for the saline beverage so intense, that complaints are frequently made of a deficiency of water, but never of physicians. For a large and well-bred pack hunt there during the sickly season, who have a quick eye for oriental livers, and a keen scent for unctuous citizens.

As Dr. Jenner's residence at Berkeley is not remote from Cheltenham, he was occasionally sent for, and sometimes resided there temporarily; and though entirely devoid of medical

policy, his ingenuity and simplicity of manners acquired him pre-eminence.

Soon after his first publication on the Vaccine, he had gone to Cheltenham with his family; and immediately on his arrival, one of the surgeons waited upon him, who being an intimate friend, took his youngest child in his arms, which he began to caress, saying, "You "of course have had the Vaccine?"—"Not yet," said Jenner; "for I have lost the lymph, from "not finding a series of patients, and the Vac- "cine has flown at present from our dairies." The surgeon, on hearing this, instantly put the child from him, exclaiming "that he had just "quitted a house, in which two persons lay at "the height of the Small Pox; and as he had "sat some time in their chambers, that his "clothes and person must have imbibed the in- "fectious vapour." These words threw both Dr. and Mrs. Jenner into a great alarm; and as no vaccine lymph could be procured any where, it was requisite to inoculate the child with the Small Pox, to lessen the danger it had been exposed to, by the imprudence of their friend.

Although Jenner's decision on this emergency was most judicious; yet his enemies perceived, that, by omitting some circumstances, the story might be turned to good account. The incident accordingly, when sufficiently mutilated, was whispered abroad with this commen-

tary: that Jenner, by secretly inoculating his own son with the Small Pox, showed clearly that he had no real confidence in the Vaccine, which he was endeavouring to impose upon the world. As calumny travels with celerity, and is commonly kindly greeted, this report was whirled with rapidity to London, and thence with the velocity of the winds transported even to the antipodes before Jenner knew a syllable about the matter. It was then very easy to clear up the transaction. But though the real fact has been printed in various periodical publications, and circulated industriously; yet the original fabrication is often repeated still. For a lie is a weed, that when plucked up repeatedly, will spring again.

This story made a very transient impression at Cheltenham; which is not, like London, of such magnitude, that facts occurring on the spot can be long disguised. Yet other fables were afterwards trumped up; which being also detected, the Vaccine became popular there; and the practice of Vaccination was diffused over the county of Gloucester.

The opposition in other places was less remarkable, and in many the new practice was early embraced with cordiality. This favourable reception was especially manifested in York, Manchester, Liverpool, Birmingham,

Leeds, Chester, in the two Universities Oxford and Cambridge, and even at Plymouth, though a seaport, owing to the exertions of Mr. Dunning, an eminent surgeon of that town. At Norwich, Newcastle, and Nottingham, Vaccination was so much practised, that the Small Pox soon became very rare; and the decrease of that malady, wherever the new practice prevailed, was always evident.

CHAP. VII.

PARLIAMENTARY PROCEEDINGS.—A COMMITTEE OF THE HOUSE OF COMMONS APPOINTED TO INVESTIGATE DR. JENNER'S CLAIM TO THE DISCOVERY.

In proportion as the benefits of Vaccination were extended, gratitude to the discoverer arose in the public mind; and the sentiment, that this incalculable benefit merited a most honourable remuneration, gradually prevailed. This became a topic of conversation, not only with the medical profession, but likewise with those who take an interest in scientific researches. It was perceived, that, if concealment had been practised, an immense fortune might have been accumulated. But although this line of conduct could never be pursued by a man like Jenner; still it was remarked, that the consumption of time, and the pecuniary sacrifices in attaining the ultimate object, had been great: and after the discovery had been unfolded, the opposition which sprung up and the errors which had been committed, had obliged him to leave his country residence, and to bring his family to London. In that turbulent scene he had been forced into controversies abhorrent to his disposition; and had

been compelled to defend both the Vaccine and his character from base calumnies. He had sustained, besides, a considerable and permanent decrease of income: for, on quitting Berkeley, where he had long resided as sole physician, two other physicians had established themselves there, and had gained the confidence of the neighbourhood. Therefore Jenner's benevolent exertions had hitherto tended to impoverish his family. From these facts it was obvious, that if the public could be so ungrateful as to neglect bestowing upon their benefactor a national reward, a full indemnification for all his losses could not be refused in rigid justice.

These considerations having suggested themselves to some political characters, not wholly engrossed in party contests, they resolved to lay the subject before Parliament.

It is in the House of Commons, (whose forms are regulated on principles of thrift, rather than of delicacy,) where grants of public money must originate. Jenner was proudly circumstanced: he had bestowed on his country and on the world so inestimable a gift, that nothing approaching its value could be returned. To him mankind must for ever remain insolvent. Yet to obtain even a compensation for the expenses which he had incurred, it was indispensable, that he should present to the House of Commons a petition, couched in prescribed humiliating

terms. Forms like these were invented during the servility of feudal times; and, though detested by men of spirit, are continued from devotion to ancient customs.

On the 17th of March 1802, Dr. Jenner's petition was presented to the House of Commons*. At this time Mr. Addington † was prime minister, who favoured the application with every official aid that was requisite. He communicated to the House, that he had taken His Majesty's pleasure upon the contents of the petition, who recommended it strongly to their consideration. The business was then referred to a Committee, of which Admiral Berkeley was appointed chairman ‡.

The Committee acted with scrupulous impartiality, summoning before them both the persons who had the greatest experience in Vaccination, and also those who, by their writings and declarations, were known to be inimical to Dr. Jenner and to his discovery.

He himself § was first called in; but, from

* Journals of the House of Commons, March 1802.

† Now Viscount Sidmouth.

‡ Report of the Committee on Dr. Jenner's Petition.

§ Report of the Committee on Dr. Jenner's Petition. And Evidence at large, as laid before the Committee, &c. By the Rev. G. C. Jenner, 1803. (Taken by a short-hand writer.) This publication is fuller than the Report, and therefore preferable as a reference, though they both accord in substance.

singular diffidence, was incapable, even with preparation, to give an oral testimony in public of what he thoroughly knew. He therefore delivered to the Committee a written statement, containing a succinct account of his investigations; which corresponds with the more copious narrative that has been given at the beginning of this volume. Dr. Ashe, an accomplished physician, possessed of many acquirements, and who had resided several years on the continent, was then examined. He declared that the Vaccine had been unknown abroad, until the publication of Dr. Jenner's works; but soon afterwards it had been conveyed to Germany, and propagated in most parts of Europe, where public opinion was highly in favour of it. As he considered the discovery to be of the utmost importance, he had paid great attention to it: he had seen many persons vaccinated, among whom were three of his own children; and his opinion was, that the Vaccine was an effectual and permanent security against the Small Pox. He was also convinced, that the Vaccine did not excite a disposition to any other disease.

The Committee proceeded to examine above thirty physicians and surgeons of eminence or respectability, all of whom had applied themselves attentively to this subject. A few noblemen and gentlemen acquainted with particular facts also gave their testimony; and the results

of the whole were these: that according to the researches and calculations of several learned physicians, the Small Pox destroyed annually in Great Britain and Ireland between 34 and 36,000 persons: that the practice of variolous inoculation, instead of diminishing, had augmented the mortality by this disease, which consumed about one tenth of the population: that the Vaccine, after extensive experience, had proved to be an efficacious preventive of this fatal malady; and was not only innocent in its own nature, but, as the Small Pox is frequently followed by scrofulous affections, and other disorders accompanied with debility, the Vaccine, by preventing the Small Pox, was also a preservative from those consequent evils: that, on the whole, Vaccination was considered to be the greatest discovery ever made in medicine, and Dr. Jenner the sole discoverer.

In corroboration of the period in which he had commenced his investigations, Mr. Gardiner, one of his friends, was called in, who declared that* in the spring of the year 1780, Dr. Jenner had informed him of the peculiar nature of the Cow Pox, and of his theory on the subject; adding his full and perfect confidence, that it might be continued in perpetuity by inoculation from one human being to another.

Mr. Home (since Sir Everard Home) stated,

* Evidence at large, &c. p. 135.

that in the year 1788 Dr. Jenner had presented to his brother-in-law, John Hunter, a drawing of a finger with a vaccine pustule upon it; and he at that time proposed to Mr. Hunter vaccine inoculation as a mode of preventing the Small Pox. Mr. Hunter advised Dr. Jenner to prosecute the inquiry, which was then too new to form an opinion upon.

This whole evidence was most satisfactory; and the counter-evidence of those who were the declared enemies to Vaccination and to Dr. Jenner, was surprisingly frivolous. It must indeed be concluded from the feebleness of their testimonies, when contrasted with the fury of their writings, that either a sense of inferiority in the presence of other professional gentlemen overpowered them with shame, or that they were restrained with awe by the majesty of the House of Commons.

Dr. Moseley * was particularly cautious: he owned he was not conversant with the practice of Vaccination, and that sufficient time had not yet elapsed to enable him to form a correct opinion. He had heard, indeed, of some failures, but could neither recollect the cases, the informers, nor give any particulars. Finally, he acknowledged, that he was now inclined to think more favourably of Vaccination than formerly.

* Evidence at large, &c. p. 39 and 56.

The testimony of Mr. Birch* was equally tame. He said, he had often seen Vaccination performed, but had neither practised it himself, nor attended to it sufficiently to give a positive opinion upon the subject. Being asked if he knew of any instances where the Vaccine had failed to prevent the Small Pox, he mentioned two or three cases; but acknowledged, upon a cross examination, that the patients had received the infection of the Small Pox previous to their being vaccinated.

Besides these cases, he had heard of some other failures. But being asked at last, if he knew any instance of a person who had been vaccinated, and who caught the Small Pox on being exposed afterwards to the infection: he replied, he did not.

Something tremendous was expected from Dr. Rowley†, whose antipathy to the Vaccine bordered on frenzy: but his deposition was a tale signifying nothing. He said, he had been at Oxford during the summer, where Dr. Wall, and other professors, had informed him that several children there had caught the Small Pox after being vaccinated. He had himself seen two of these cases, one of which terminated fatally.

The Chairman of the Committee transmitted

* Author of Serious Reasons against Vaccination, &c.

† Evidence at large, &c. p. 115, 167.

this account in a letter to Dr. Wall; who replied, that Dr. Rowley had not recollected accurately their conversation, but had confounded in one statement different cases: one of these was the case of a child who had afterwards been seen by Dr. Jenner, and pronounced by him, on examining the arm, not secure from the Small Pox, unless vaccinated again. This child caught the Small Pox in a mild degree.

There were two other children, patients of Mr. Grosvenor, a surgeon of Oxford, who had been vaccinated, and who caught the Small Pox; one of whom died; but Dr. Wall never saw them.

On a reference to Mr. Grosvenor*, it was communicated that these children had been vaccinated, not by himself, but by one of his young pupils: that, however, he had seen the cases, and they appeared to have received the infection properly.

Dr. Wall, in a second letter to the Chairman, declared, "that he never yet had met "with any instance which had shaken his opinion "of the Vaccine being a safe and efficacious pre-"servative against the Small Pox." As this Professor had been quoted by Rowley for holding an

* Evidence at large, &c. p. 153. 168.

opposite opinion, the gentlemen of the Committee, being ignorant of the character of the latter, stared on reading this contradiction to his testimony; and their surprise was not diminished when they heard him very frankly contradict himself. For, after endeavouring to prove the superior safety of variolous inoculation to the new practice, by affirming that disorders and humours had been excited by Vaccination; on his cross-examination, he restricted these effects to the incipient practice, and allowed that they were now obviated. He also declared that he had seen symptoms of a worse nature, and which sometimes proved fatal, after the inoculation of the Small Pox.

This conclusion induced the good-natured part of the profession to hope that Rowley had become repentant; but after he had escaped from the salutary awe which had held him within due bounds, he relapsed, and wrote an insane pamphlet*, in which he accuses the Committee of the House of Commons of having garbled his evidence. This physician was in truth privileged to write what he pleased with impunity; and this very work made it obvious, that, if any consistency had appeared in the report of his testimony, the Committee must have forged it.

* Cow Pox Inoculation no Security against Small Pox Infection, &c. p. 15.

Due attention is now solicited to the remaining evidence, which developed surprising malignity towards Dr. Jenner; who, during the calm course of his philosophic life, had never given offence to any one, except by his inestimable donation to mankind. Yet, in revenge for this, some devilish engines were now wound up, which, however, unexpectedly recoiled, and overwhelmed the contrivers with shame and confusion.

Dr. George Pearson, being examined by the Committee *, allowed that he had derived his first knowledge of the practice of Vaccination from Dr. Jenner; but asserted that afterwards he had received information from other sources. He then delivered in several letters which contained the additional intelligence; and he said that the facts mentioned in them had taken place, in all probability, earlier than the year 1798, when Dr. Jenner published on the subject. He did not however imagine, that Dr. Jenner was acquainted with the substance of these letters; but believed that the knowledge of the Vaccine was attained by all the parties independently of each other.

The reason avowed for producing these letters was to prove, that there were other persons besides Dr. Jenner, who had claims to parti-

* Evidence at large, &c. p. 104, and Supplement.

cipate in this discovery; but, on examining their dates, all of them were found to have been written subsequent to its promulgation.

This alone was sufficient to destroy every pretension which could thus have been set up. For, after a secret is completely divulged, it is very easy, by mistatements, exaggerations, or inventions, to feign a prior knowledge. Therefore, if George Pearson's correspondents had even laid any claim in these letters to the discovery of Vaccination, the posteriority of their date would have been a fatal objection. But in truth they were not so presumptuous: for none of them brought proof of their ever having vaccinated a single individual. It appeared, however, that these persons, residing in the dairy counties, had heard the reports of the prophylactic properties of the Cow Pox; and one of them being a surgeon, had found by experience, that milkers who had been infected with that complaint, often resisted variolous inoculation. These facts were familiar to many, but the capacity of profiting by the occasion was wanting: and they were now soured with vexation at viewing what a superior intelligence, with the same opportunities, had accomplished. The discontent which gnawed their breasts, prompted them to exaggerate their own puny acts, and the reported medical deeds of some country people, with the contemptible design of detracting from the merit of the discoverer. Mr. Her-

man Drew, a clergyman of Devonshire, makes the most conspicuous figure in this junto. He had the folly to write, that Dr. Jenner was no more the discoverer of the Cow Pox and its effects, than he was *.

This showed that he neither knew what had been discovered, nor had read what Jenner had written; who had candidly avowed that a report of the Cow Pox being often a preventive of Small Pox, had been long spread abroad in Gloucestershire. There were also other passages in Mr. Drew's letters equally replete with ignorance and petulance: but it appeared that he had a taste for physic, and had learned from professional men something about the Cow Pox; which intelligence he had long ago communicated to Sir George Baker, President of the College of Physicians. To learn precisely the substance of this communication, Sir George was examined by the Committee †: who said, that Mr. Drew had written to him about twenty-five years ago upon the subject; and "that the "result was, there was an opinion prevailing in "his neighbourhood, that dairy-maids who hap-"pened to get the Cow Pox, were by that means "free from the accidental infection of the "Small Pox." Sir George also recollected, that he

* Evidence at large, &c. Supplement, p. 160, 156.

† Evidence at large, &c. p. 103.

had wished an attempt to be made to inoculate with the matter of the Cow Pox; but he did not recollect that any such attempt was actually made. Mr. Drew however wrote, that fourteen years ago, he and a surgeon named Bragge had made use of some Cow Pox scabs dissolved in warm water for inoculation, but without success. It is remarkable, that even this futile essay was not confirmed by Mr. Bragge, the supposed operator on the occasion. For, in his letter to the Committee, though he was sufficiently disposed to magnify his exploits, he made no mention of that unsuccessful experiment: the fact, however, not being positively contradicted, Mr. Drew may be permitted to enjoy the credit of having committed that failure.

But Mr. Bragge *, who treated very lightly the merits of Mr. Drew, announced his own to the Committee, with considerable arrogance; declaring, "It is now more than thirty years "ago that I first made experiments, and proved "that the vaccine disease was a preservative "against the Small Pox; and it is, I believe, "more than twenty years ago, that, through the "Rev. Herman Drew, I acquainted Sir George "Baker with the observations and experiments "I had then made, which I am certain Sir "George will readily acknowledge."

* Evidence at large, &c. p. 161, 159.

It was natural to expect that this confident declaration would have been corroborated by the two persons who were said to be acquainted with the facts. But Sir George Baker could not recollect that a single experiment had been made, and never mentioned Mr. Bragge's name. And Mr. Drew only noticed the fruitless trial with dissolved scabs; in which business he represented himself as the principal, and put Mr. Bragge in the inferior light of a person whom he had employed to perform his operation. Thus it was found, that Mr. Drew did not confirm Mr. Bragge's statement, nor Mr. Bragge, Mr. Drew's; and Sir George Baker, to whom both appealed, supported neither. Mr. Bragge therefore remained in a most mortifying predicament; his evidences gave not the slightest support to his claim; he produced no other proofs, nor did he even relate the particulars of any of the experiments which he asserted he had made. It is true, he averred that he had written papers upon the subject twenty years before, which had been accidentally burnt. But what detriment was that? Suppose Dr. Jenner's papers, containing the whole of his experiments, had been destroyed, could not the loss have been quickly repaired? The man who could make a discovery, could soon restore his proofs. But as Mr. Bragge, neither of his own accord, nor by the prompture of

Mr. Drew, in the space of twenty years recomposed his papers, nor pretended to have repeated his experiments, they must have appeared even to himself insignificant. It may, however, be conjectured that Bragge, like other surgeons in that country, had inoculated some dairymen and dairymaids with Small Pox matter without effect. These inoculations might be termed by a casuist, experiments; but that nothing like Vaccination was ever performed by him, is quite clear, both from his not daring ever to assert it, and also from the testimony of Sir George Baker, to whom, he said, his papers had been transmitted. For Sir George remembered only Mr. Drew's letters; which contained the reports of the dairies, but not one experiment *.

Bragge, indeed, merits some credit for never venturing to detail a single fact in support of his own claim: yet he pretended to recollect some facts which would establish a claim for another; and which, he said †, would convince all, "that "Dr. Jenner was not the only person entitled to "the reward which may be thought deserving "for such a discovery." (He proceeded thus:) "It is now, I believe, twenty years ago, that "Mrs. Rendall, the wife of a respectable farmer "in the parish of Whitechurch, near Lyme in

* The Evidence at large, &c. &c. p. 103.

† Ibid. p. 160.

" Dorsetshire, who is at this time a tenant to " Lady Caroline Damer in the same parish, for " which I have been concerned, as an apothe- " cary for the poor, ever since I have been in " business, inoculated herself, and three or " four children, *for it*; and those children, who " have long arrived at manhood, have since ino- " culated their friends and neighbours whenever " an opportunity has offered*."

As, in the above quotation, the important particle *it* has no antecedent to which it can be referred, the species of liquid with which Mrs. Rendall and her family performed their inoculations is not expressed. Yet no one can believe, that this female leech employed any other than Small Pox matter, which was often used by country gossips. But it is obvious that honest Bragge, who either from ignorance committed a solecism, or from artifice an equivocation, intended it should be understood, that Mrs. Rendall and her grown-up children were experienced vaccinators. The Committee were however saved all trouble respecting this incredible suggestion, as neither Mrs. Rendall nor any of her family could be tempted to testify this; nor could one of those who it was insinuated had been vaccinated, ever be found.

This relinquishment was conclusive: but so

* Evidence at large, &c. p. 160.

great was the invidious passion of detracting from Dr. Jenner, that the dairy counties were ransacked for every rumour or idle tale which might bring suspicion on the originality of his opinions.

It was mentioned in letters from Mr. Drew, and a Dr. Pulteney * of Blandford in Dorsetshire, that they were informed of a woman having made five of her children handle the teats and udders of infected cows: which children, when inoculated for the Small Pox, resisted the infection.

This fact is not satisfactorily ascertained, and the person's name is not even mentioned: but, if true, she was a very sagacious woman.

A nearer approach to the discovery was certainly made by another person, the first account of which came from Mr. Dolling †, a surgeon at Blandford, and being confirmed by the man himself, is entitled to credit ‡.

From various statements it appeared, that a certain farmer of Yetminster in Dorsetshire, named Jesty, inoculated his wife and several children, with matter from the teats of a distempered cow. Whether owing to the operation being rudely performed, or to the matter being of an extremely malignant nature, the

* Evidence at large, &c. p. 156, 157, 158.

† Evidence at large, &c. Supplement.

‡ Medical and Chirurgical Journal, 1802.

arms inflamed most violently, and all were attacked with an alarming fever. Jesty was terrified lest he had poisoned his whole family, and ran in a fright for medical aid. A neighbouring surgeon (Mr. Meach of Cerne) was called in, under whose care the patients recovered.

This farmer cannot be denied the praise of having shown more medical acuteness than all the professional men around him. Yet the event of this inoculation from the cow was so far from leading to the practice of Vaccination, that it deterred both the farmer himself, and all the surgeons who had heard of it, from daring to repeat the experiment.

These were the contents of the letters presented to the Committee: but while it continued sitting, George Pearson was toiling to find out something solid; and after eight days he returned triumphantly with fresh, and, as he boasted, with decisive proofs of Dr. Jenner having been anticipated. He stated * that he was authorized by several persons to inform the Committee, that there was now living near Windsor, the son of an apothecary who had been inoculated by his father many years ago for the Cow Pox: and he afterwards said in conversation, that Mr. Keate, the Surgeon General, was

* The Evidence at large, p. 128, 130.

in possession of some manuscripts written by that apothecary, which would throw light upon the business.

Being asked, "What further facts do you "know affecting Dr. Jenner's claim?" he replied, he "admitted that Dr. Jenner was the "first who set on foot the inquiry into the ad- "vantages of vaccine inoculation; but he ap- "prehended that the practice, though first pro- "mulgated by him, had been established almost "entirely by other practitioners." It was then demanded by the Committee who those practitioners were: to which, instead of a pertinent answer, an oration of an opposite description was delivered.

The witness unblushingly claimed for himself and Dr. Woodville, the merit of having established Vaccination; who, he said, had found out the Vaccine in some cow-stables near London, had tried it, had found it to succeed, and had disseminated it through England and the Continent. He then depreciated Dr. Jenner's writings, and contrasted their erroneous representations with his own correct productions. Jenner, he affirmed, had published statements of several facts which had opposed difficulties to the progress of Vaccination. But he had instituted experiments which had contradicted the alleged facts, and had, in a great degree, removed the obstructions.

To prove all this, he produced a copy of his

last work, and then descanted freely on alleged mistakes of Jenner, and amplified copiously his own original improvements and laborious exertions down to the year 1799. After which time he considered it of very small importance comparatively what was done by others.

Astonishment devoid of admiration, was depicted on the countenances of the hearers during this harangue; and as this licentiate had once solemnly declared *, "that he would not "pluck a sprig of laurel from the wreath that "decorated the brow of Jenner," a suspicion naturally arose, that he was only seeking to purloin a branch of the Vaccine for the sake of the golden fruit.

The Committee, in order to ascertain the truth of the principal allegation, summoned to the bar the son of that apothecary who was said to have been vaccinated by his father.

The name of this young man was Thomas Naish; and undoubtedly the opportunity now offered of adding honour to his father's memory was tempting to filial ambition: the character of the youth may be appreciated by his conduct in this unusual situation. In order to authenticate the manuscript which was produced, he was questioned as to his knowledge of his

* An Inquiry concerning the History of the Cow Pox, &c. By George Pearson, M. D. &c. p. 3.

father's hand-writing: to which he ingenuously replied, "This is the writing which was put into "my hands as his; I never saw my father write." At length these decisive questions were put to him: "Did you ever understand that you were "inoculated by your father with vaccine matter?" He answered, "Not for certain: I have heard my "mother say, that, at the time of my inoculation, "my father was greatly taken up with the study "of the Cow Pox, and made many experiments; "but of what nature she did not know." He was next asked, "Did you ever hear her speak of "any persons whom she knew to have been ino-"culated by your father with vaccine matter?" To this he replied, "Certainly not: his experi-"ments were entirely kept secret from her."

The answers appeared to the Committee quite conclusive against Mr. Naish: but George Pearson was violently enraged at their decision, and published soon afterwards a tedious abuse of their Report. The ratiocination throughout that work is of an uncommon kind; for the inference drawn from the absence of all proof, except the son's acknowledgment that his mother had never heard his father say he had vaccinated him, or any body else, was, that Mr. Naish was an experienced vaccine inoculator *.

* An Examination of the Report of the Committee of the House of Commons, &c. By George Pearson, M. D. &c.

But the manuscripts of this medical practitioner, who resided at Shaftesbury, and died 1785, must not be omitted. His writings had been consigned to his brother-in-law, who was also of the medical profession, but who paid no regard to them; nor have they since been considered by the family as deserving of publication.

Mr. Keate, the Surgeon General, made an extract of that part which alone related to the Cow Pox, and laid it before the Committee. Though it is in fact of no value, yet, to remove all doubts, it is judged advisable to transcribe it.

&c. Vide Appendix, p. 183. Index, word Nash, and various other parts.

The first words of the motto affixed to the title-page are strikingly appropriate: "Neque enim benefacta malignè "detractare meum est."

This called forth several lacerating replies, among which were, "Observations on a late Publication of Dr. George "Pearson, entitled, 'An Examination, &c.' By Henry "Hicks, Esq.;" "Observations on Dr. George Pearson's "Examination, &c. By Thomas Creaser, Surgeon;" and various papers in the Medical and Chirurgical Review, &c. &c. By all which Dr. Pearson was reduced to mortifying silence.

Extracts from Manuscripts by Mr. Naish *.

"It is rather remarkable that no writer "should have taken notice of the Cow Pox. I "never heard of one having the Small Pox, who "ever had the Cow Pox. The Cow Pox certainly "prevents a person from having the Small Pox.

"I have now inoculated above sixty persons, "who have been reported to have had the Cow "Pox; and I believe at least forty of them I "could not infect with the variolous virus. The "other twenty, or nearly that number, I think it "very reasonable to presume (as they were no "judges), had not the real Cow Pox. It is not my "own opinion only, but that of several other me-"dical gentlemen, that convinces me the Cow "Pox is a prophylactic for the Small Pox. I "have not been able to discover that the hu-"man species get it from the cows in any other "manner than by contact with the parts imme-"diately infected, such as in milking; neither "do I apprehend that one of the human species "can communicate it to another but by the "same means, as I have known some of the "inhabitants of a house where it was, escape

* Report of the Committee of the House of Commons on Dr. Jenner's Petition, May 6th, 1802, p. 43. The Evidence at large, &c. p. 155.

" it ; but none of those who lay in the same bed
" with a diseased person.

" In Mrs. Scammel and Mrs. Bracker, ino-
" culation produced no eruption, no sickness,
" and little or no suppuration of the arm. The
" place punctured not being bigger, when in-
" flamed and suppurated, than a large pin's
" head. It frequently leaves considerable marks,
" which are much larger than those of the
" Small Pox ; as large (I have measured them)
" as a silver threepence."

As in this paper there is no act even alluded to, except variolous inoculation, it is inconceivable, that a physician should pretend to conclude from the above remarks that Mr. Naish had ever practised Vaccination. The cases of the two ladies are evidently given to illustrate one of the preceding propositions, that the Cow Pox was a prophylactic of the Small Pox ; and the effects which are narrated to have followed, are precisely those which variolous inoculation usually produces in persons who previously had been infected with the Cow Pox, and totally dissimilar to the vaccine vesicle, with its broad crimson areola.

But eighteen months afterwards all cavilling upon this subject was put an end to, by the publication of a letter from Dr. Pew, a most respectable physician, who had succeeded to Mr.

Naish's business, was intimate with the family, and acquainted with all the parties mentioned.

He wrote the following letter to Mr. Creaser, a surgeon at Bath *.

"Shaftesbury, 14th October 1803.

"DEAR SIR,

"Agreeable to your request, I have taken "an opportunity of examining the arm of Mr. "Naish, son of my predecessor, the late Mr. "Naish, surgeon of this place, and also the "arm of Mr. Abraham Mathew, who was ino- "culated by Mr. Naish, *on the same day, with "the same lancet, and with some of the same "matter*, with which he inoculated his two sons; "and this was done at the particular request of "Mrs. Mathew, who told Mr. Naish, that if he "inoculated her son with the same Small Pox "matter with which he inoculated his own chil- "dren, she should have the best of all possible "securities that it was taken from a proper "person.

"This information I had some time ago from "Mrs. Naish; and this very morning I acci- "dentally met Mrs. Adams (late the above Mrs.

* Observations on Dr. Pearson's Examination of the Committee of the House of Commons, preface, p. 10. Second Edition. By Thomas Creaser, Surgeon. Evidence at large, &c. p. 208.

" Mathew), and took the opportunity of asking
" her respecting the inoculation of her son;
" who told me, that she never had the most dis-
" tant idea that the matter with which her son
" and Mr. Naish's children were inoculated was
" at all different from the Small Pox matter:
" that her son was exceeding ill in breeding the
" Small Pox (as she supposed it to be): that he
" had more than three hundred pustules: that she
" recollected nothing different in these from the
" pustules of another child of hers, since inocula-
" ted for the Small Pox by him: and that a great
" number of persons, some of them her relations,
" were inoculated by Mr. Naish at the same time,
" on account of the Small Pox raging universally
" at that time in the town; all of whom, as she
" apprehends, sickened for the Small Pox in the
" usual manner, and had more or fewer variolous
" pustules. With respect to the late Mrs. Scam-
" mel and Mrs. Bracker, both of whom have
" been my patients, and who, it has been in-
" ferred from Mr. Naish's papers, were inocu-
" lated by him for the Cow Pox, I have clearly
" ascertained to have been both inoculated for
" the Small Pox; and the slightness of the ef-
" fect evidently arose from their having taken
" the Cow Pox when girls, by milking their fa-
" ther's cows; which fact I have learned from
" Farmer Phillips, the brother of both, and
" from Farmer Scammel, the widower of the

" late Mrs. Scammel. If any further investiga-
" tion which it may be in my power to make
" should be deemed necessary, you may com-
" mand the impartial exertions of,

" Dear Sir,

" Your most faithful, &c.

" R. Pew.

" N. B. It may not be improper to mention
" that at the time Mrs. Scammel was inoculated
" by Mr. Naish for the Small Pox, six or seven
" of her children were also inoculated, all of
" whom had more or fewer pustules, although
" she herself escaped with the slight affection of
" the arm Mr. Naish recorded."

Truth, as appears by the above letter, was natural to the widow of Mr. Naish : she was superior to making concealments, and honourably divulged all the circumstances accompanying the inoculation of her son, although they were completely subversive of the notion that her husband had invented Vaccination, and of the distinction which she and her family would have attained from that belief.

In delineating so pleasing an example of genuine virtue, the pen glides swiftly and smoothly along, and some relief is procured from the laborious toil of pursuing Detraction through all her foul and crooked tracks.

As it was hopeless to elude the foree of Dr. Pew's letter by sophistry, no reply was ever attempted. It totally overthrew the last projeet of Dr. Jenner's enemies, and sunk them into a state only to be alleviated by oblivion.

All doubts were removed by the scrutiny, and a result produeed unforeseen by those who set it on foot. For, without such an examination, it might have been imagined that this diseovery was no very difficult matter, and that Jenner was only fortunate in having resided on a spot where the Vaeeine was endemie. But the investigation showed that the peeuliar quality of the Vaecine had been known long; indeed, perhaps, for ages. This knowledge had been generally diffused over the west of England, both among the medical profession and others. It had been communicated to Sir George Baker and to the celebrated Hunter, and also to many other distinguished professional and philosophical persons. It had even been published in several medical works, and annually taught to the medical pupils of London for upwards of twenty years. In Ireland, Holstein, Lombardy, and Persia, the primitive facts had been also observed, but, like wild seeds, had been totally neglected, until gathered, transplanted, and disseminated by the assiduous hands of Jenner.

Secrets, after disclosure, are wont to seem easy; yet the Spanish wiseacres, who thought so, were puzzled to make an egg stand an end. And before the invention of Vaccination, it would have been considered as feasible a project to devise a means of extinguishing the Small Pox, as to search after the philosopher's stone.

CHAP. VIII.

THE DEBATE AND VOTE OF THE HOUSE OF COMMONS UPON DR. JENNER'S PETITION.

The Committee having finished their deliberations, drew up a Report, expressed in as favourable terms towards Dr. Jenner, as the caution and formality of parliamentary language would admit. On May 6th, 1802, this Report was brought up to the House of Commons, and ordered to be laid upon the table; and on the 2d June, the House having formed itself into a Committee of Supply, the business was taken into consideration. Admiral Berkeley first arose, and spoke to the following effect: "In "the investigation of a matter of so much im- "portance to mankind as the discovery of Vac- "cination, it was not thought right by the Com- "mittee to confine their examinations, as is "usual, to the petitioner's evidence. But they "likewise sought for the testimony of all those "who were hostile to the new practice, and "who were most keen to detect its fallacy. "This rigorous proceeding, which may have ap-

" peared to bear hard upon the petitioner, has
" only confirmed his triumph. For, although the
" very kennels were raked to find anonymous
" libels and defamatory writings against this
" discovery; yet so perspicuous were the proofs,
" and so clear the explanations of every objec-
" tion, that additional lustre has been acquired
" by this inquisition. Upon the beneficial ef-
" fects of Vaccination, the Report contains the
" scientific opinions of the first medical men in
" this country; and should this be insufficient,
" there is the homage which has been paid by
" Europe to the bestower of this blessing, and
" the applause he has obtained from the world,
" to satisfy this House and the British nation;
" who, though slow to believe, are ever willing,
" when convinced, to reward with liberality.

" In a national view, both in peace and war,
" one great benefit from this invention has fre-
" quently been overlooked, and which I shall
" therefore notice. So mild is the operation of
" the Vaccine, that, during the whole process,
" labourers have continued to earn their daily
" tasks for the maintenance of their families;
" and mariners and soldiers have performed
" their duties, through one of the most severe
" and fatiguing campaigns that was ever sus-
" tained.

" As to the remuneration which ought to be
" granted, I know not how this is to be appre-

"ciated. Here I hold in my hand a list of va-
"rious sums which have been bestowed upon
"ingenious men, for inventions of far inferior
"value; and there is a vote of Parliament, of-
"fering 20,000*l.* to whoever shall discover
"the longitude. Although, without that know-
"ledge, we are enabled to circumnavigate the
"globe, yet I as a seaman would certainly
"rejoice to see that reward claimed; but if the
"discovery were made, I could not look upon
"it as comparable to that of Vaccination, which
"is calculated for the preservation of so large a
"portion of the human species. It has been
"proved that nearly 40,000 persons in these
"united kingdoms alone, die annually of the
"Small Pox. Is the invention which can put
"an end to this mortality not to be rated higher
"than the discovery of the longitude, by which
"not a single life would be saved? But should
"the whole world be taken into the account, it
"will appear, that a victim is sacrificed at the
"altar of the Small Pox, every second that is
"struck by the hand of time.

"This may be put in another point of
"view: suppose it were proposed in this House
"to reward any man who saved the life of a
"fellow-creature with ten shillings; the small-
"ness of the sum would appear ludicrous; yet
"if the statement of 40,000 deaths be correct,
"and if this discovery shall prevent them,

" Dr. Jenner, by such an agreement, would be " entitled to 20,000*l.* a year. I, however, " who am a personal friend and an admirer of " Dr. Jenner, shall only move, that a sum of " not less than 10,000*l.* be granted him; declar- " ing, at the same time, that I do not think " it sufficient; and should other Members " of this House propose a larger sum, I shall " hold myself free to vote for it."

Sir Henry Mildmay next got up, and said, " I declare I think the sum proposed by no " means adequate. The benefit arising from the " discovery is great, and the conduct of Dr. " Jenner in disclosing it to the world, and in " giving every information upon the subject, was " most liberal. And there is ample testimony, " that if he had locked up the secret in his own " breast, he might easily have realized a hun- " dred thousand pounds. I therefore move to " insert in the resolutions the sum of 20,000, " instead of 10,000 pounds."

Mr. Banks pronounced, " That there was a " paramount duty invested in that House, as the " guardian of the public purse, which it be- " hoved them to attend to.

" On looking into the precedents relative to " the present case, they resolved themselves into " two divisions: the first was where the disco- " very was divulged; the second, where it was " kept secret, and had become the subject of a

" bargain between the public and the inventor.
" Of this last elass there were several instances,
" where this House, led away by fashionable ru-
" mour, had voted sums of money, which now
" they might wish to be recalled. One of these
" was the grant of 5000*l.* to Mrs. Stevens for
" a solvent for the stone, which experience after-
" wards proved to be ineffieacious. Although
" he believed that there was little danger of the
" present discovery falling into discredit by
" subsequent practice, yet he wished to put the
" House into a state of diffidenee upon the sub-
" jeet. Besides, if it were once conceded that
" every discovery of utility ought to be remu-
" nerated by that House, the public purse would
" not be large enough for the claimants.

" The conduet of Dr. Jenner certainly dis-
" played the greatest liberality; yet it was un-
" fortunate that he did not conceal his secret, as
" he would then have been remunerated by his
" own praetiee: but there was reason to belicve
" that this would still be the case, as the in-
" ventors of the Small Pox inoculation made
" ample fortunes; they being preferred to other
" medical men for conducting the proccss, even
" after the method was disclosed. I contend
" that Dr. Jenner has the means of remunc-
" rating himself; and that this is not a question
" of justice, or I would ask, why was the sum
" so restricted? and though I aeknowledge the

" general benefit of the discovery, I cannot " think myself justified in thus voting away the " public money."

Mr. Banks, whose intentions are always pure, erred on this occasion egregiously, from having ventured to speak without the slightest information on the subject. By the words *inventors of Small Pox inoculation*, he probably neither meant the Indian Bramins, nor the Arabian shepherds, from whom that practice was derived, nor Lady Mary Wortley Montague, who first brought it to Europe; for none of these persons made fortunes by the invention; and the authors of it are still unknown. If the allusion were to the Suttons *, their success was foreign to the argument; as they like empirics kept their treatment of the Small Pox secret. If due respect were always paid to the great council of the nation, the Members would carefully inquire before they offered their advice, and not treat Parliament with their first crude conceptions, like a club-room.

Mr. Windham replied to Mr. Banks, " Cer- " tainly much of what has been urged by my " Honourable Friend leads to a conclusion the " reverse of that which he has drawn.

" That this House is the guardian of the pub-

* History of the Small Pox, by the Author, p. 267.

" lic purse, is admitted by all ; whence it follows
" that we should never grant a reward where it
" was not merited. Our first question, there-
" fore, should be, does this discovery deserve a
" reward ? If this is decided affirmatively, we
" should next consider, what the amount of the
" reward ought to be ?

" My Honourable Friend stated that there
" had been persons who had concealed their
" inventions, and bargained for their price.
" But the petitioner had most meritoriously
" adopted an opposite conduct ; by imparting
" his discovery to the world, and proving its
" utility, before he solicited a reward. Had he
" adopted concealment, I am at a loss to say
" what sum it would have been the duty of this
" House to have voted for the purchase of such
" a secret.

" When my Honourable Friend, who was a
" member of the Committee, observed, that in
" some instances rewards had been bestowed
" impolitiely, I conceived that he was going
" to contend, that there was either no merit in
" Dr. Jenner's invention, or at least that there
" were doubts of its efficacy. But, on the con-
" trary, he concurred in the general opinion of
" the great merit of the discovery ; and yet con-
" cluded against allowing any reward. Surely,
" after admitting the utility, our next considera-
" tion ought to be the extent of the beneficial

" effects: these, in the present case, are beyond " all estimation; for the discovery leads to the " complete eradication of a dreadful disorder.

" One point still remains to be examined; " whether this was an invention that could pay " itself. For if this were so, the inventor could " have no claim for a remuneration from the " public.

" But there was no prospect of this in the " present case, as the invention is capable of " being used, not only by every medical man, " but even by others. The case of the Suttons, " the improvers of Small Pox inoculation, which " was alluded to by my Honourable Friend, was " essentially different. For, instead of divulging, " they had most sedulously concealed their secret.

" It might, indeed, be alleged, that this " discovery could not have been kept hid for " any great length of time. But although com- " plete secrecy might have been difficult, yet " doubts of the knowledge of others would " have given to Dr. Jenner a decided preference " in practice. The wealthy would universally " have applied to him; there was, therefore, " great merit in his disclosure.

" I have no hesitation, then, in saying that " the discovery of Vaccination was one which " was entitled to reward; and that a reward " ought to be given, not only for the sake of " this discovery, but to excite others to bend

" their minds to invention, and when they " have succeeded, to impart their discoveries " freely to the public; and with respect to " the larger of the two sums proposed, it ap- " pears to me on this occasion the least that can " be given."

Sir James Sinclair Erskine* remarked, " that there was one point which had not yet " been adverted to. I have it from the best autho- " rity, that in completing and in extending this " discovery, Dr. Jenner has actually expended " no less than 6000*l.*; that he has also aban- " doned a practice in the country of full six hun- " dred a year; and that his professional income " since his residence in London, was not equal to " his house-rent. Should, therefore, the majo- " rity of the House object to granting 20,000*l.* I " hope they will at least vote for 15,000*l.* that " Dr. Jenner may acquire 9000*l.* clear."

Mr. Michael Angelo Taylor " objected to Dr. " Jenner's expenses being adduced to influence " their decision, because these not having been " stated by the Committee as a ground for their " resolutions, they were not at present regularly " before the House." In answer to this, Mr. Hobhouse read several extracts from the Report of the Committee, relative to Dr. Jenner's expenses, and then added, " that these expenses

* Now Earl of Rosslyn.

" having been thus noticed, as one of the points " of their deliberations, they could be stated " in argument without any infringement of the " regularity of their proceedings."

Mr. Addington, Chancellor of the Exchequer, then arose and addressed the House as follows: " One thing is clear, that whatever " sum of money the Committee shall grant to " Dr. Jenner, he has already received the great- " est reward which can be bestowed, the una- " nimous approbation of the House of Commons: " an approbation most richly deserved, as it has " been acquired by one of the most important " discoveries to society, that was ever made, " since the creation of man. Happily there is " no difference of opinion on the merit of Dr. " Jenner. That he is the discoverer, and that " the value of the discovery exceeds all calcula- " tion, are incontestably proved by convincing " evidence; and it is also made manifest, that " he has precluded himself from great emolu- " ments by his generous disclosure. Notwith- " standing my wishes for rewarding such a per- " son; yet knowing the duty I have to dis- " charge respecting public money, I must entreat " the Committee to pause, before they adopt the " amendment which has been proposed. For it " is evident, that one effect of this discussion " will be to confirm the general adoption of this " new species of inoculation; another conse-

" quence will be, to establish for ever the fame
" of Dr. Jenner; and it must also be expected,
" that a vote of ten thousand pounds as a
" reward, will extend widely the practice of
" that physician. If I were called upon to say
" what was the value of the discovery, and if I
" were to be governed in my vote by that valua-
" tion, I should not know what sum to specify;
" for the discovery is inestimable. But this is
" not the principle on which it is practicable
" to proceed; the benefits are boundless, where-
" as the remuneration must have limits: so the
" question to be decided is, what, under all
" the circumstances, would be a reasonable re-
" compense to the discoverer. The difference
" between 10,000*l.* and 20,000*l.* is not the
" standard by which the Committee are to
" pronounce upon the merit of Dr. Jenner: as
" their vote now might be restricted by eco-
" nomy towards the public; and the question
" may be renewed at some future period; when
" the advantages of Vaccination shall have been
" more generally and indisputably acknow-
" ledged. When I call to mind the prodigious
" benefits which result from this invention, I
" confess it is painful to me to oppose any sum
" of money that could be proposed, and it is
" only from a conviction that Dr. Jenner will
" acquire by this deliberation many other advan-
" tages, that I think myself bound to support

" the original motion. In drawing this conclu-
" sion, it is requisite to resist the impulse of
" my own feelings; and to attend to nothing,
" but a sense of public duty. Yet it is a satis-
" faction to reflect, that, by the sanction of this
" House, the medical practice of Dr. Jenner
" will be greatly extended, and the comforts
" of his family also provided for; while he
" will receive another and a far superior reward,
" from the consciousness of his own benevo-
" lent conduct."

Mr. Grey then said, " From the general
" tenour of the last Right Honourable Gentle-
" man's speech, and especially from his admis-
" sion of the vast benefits flowing to mankind
" from Vaccination, I had entertained hopes,
" that he would have concurred in the amend-
" ment. Indeed, though no one can call in
" question the importance of the discovery, yet
" a difficulty may be raised, concerning the
" extent of the remuneration. Yet I have heard
" no sufficient reason for limiting the sum to
" 10,000*l.*; and if we contract our views to mere
" calculations of the expenses which Dr. Jenner
" may have incurred, and of the losses he may
" have sustained, we risk only indemnifying,
" instead of rewarding him. One Honourable
" and frugal Gentleman even expressed an alarm
" of this becoming a dangerous precedent,
" and of the public purse not sufficing for such

" claims. I have likewise fears, though from a
" different source; for I dread that we shall
" never again have the happiness of rewarding
" a similar invention. The Right Honourable
" Gentleman who spoke last, imagines that a
" great increase of Dr. Jenner's income is likely
" to arise from an augmentation of his medical
" practice. But this is a vain expectation;
" since he has rendered Vaccination familiar to
" the profession, and has diffused this know-
" ledge as widely as was in his power, sacri-
" ficing every expectation of private emolument
" to the public good. Neither can I allow my-
" self to be influenced by another motive which
" has been assigned; that Dr. Jenner has
" already obtained a lasting and superior reward
" from the consciousness of the good he has
" done; for surely this House will not deduct
" any portion of their pecuniary reward, on
" account of the discoverer having obtained the
" moral gratifications springing from virtue;
" unless they should also consider it fitting to
" compensate those who are enduring the tor-
" menting reflections inseparable from vice."

Notwithstanding the favourable reception of Mr. Grey's speech, Mr. Wilberforce would not risk a decision upon a question interesting to humanity, without adding his wonted support. " It is proved by evidence, that Dr. Jenner had
" been engaged for upwards of twenty years in

" completing his discovery: and it cannot be " questioned, that if, during the time devoted to " this interesting subject, he had exerted his " abilities in acquiring general business, his " income would have augmented. He is there- " fore, at present, a material sufferer in the " public service, and ought to be fully recom- " pensed; nor should the allegation of an ex- " pected increase of private business, prevent a " proper remuneration from this House; for Dr. " Jenner is not to be considered as a young " medical adventurer expecting to push him- " self into practice by Vaccination. He had " before attained medical celebrity, and aban- " doned an extensive business to enable him to " establish his discovery: and there is no like- " lihood of his being able to resume, even that " which he had forsaken. Indeed, many are led " to suspect, that, from an exclusive attention " paid to the Vaccine, he has become less skil- " ful in other branches of medicine; and in " consequence of having candidly imparted all " his knowledge to the world, and of having " rendered others equally competent as himself " to employ his invention, he will rarely be pre- " ferred even for vaccinating. On every view " of the subject, I think the larger sum ought " to be voted."

When the Chairman was about to put the question, Mr. Courtenay started up and said:

" The propositions before us have been gravely
" argued by various Members, according to their
" peculiar propensities, morally, philosophically,
" and medically; it only remains for me to treat
" of them economically; for which, without
" boasting, I am excellently qualified, both by
" nature, and by circumstances. I may venture
" to assert, that I have a practical knowledge of
" the inconveniences resulting from errors in
" private accounts; and the present state of
" those of the public is not exempt from them.
" Embarrassments have taught me arithmetic,
" which is useful for both; so the House may
" confide in my calculations; and if they will
" also trust to my experience, they will give the
" highest encouragement to whoever invents
" new ways and means. It was computed by a
" celebrated author on finance of the last cen-
" tury, that every individual in these kingdoms,
" by his consumption of wares, paid forty shil-
" lings annually to the revenue. Every man
" was consequently estimated at that sum.
" Now, if it should be granted, that the value of
" human beings keeps pace with other articles
" of manufacture, the price of an Englishman
" must have risen to five pounds nineteen shil-
" lings and a groat; that is, nearly treble what
" he was worth at the Revolution. Therefore
" Dr. Jenner, by preserving every year 40,000
" of those commodities, men, pours annually

"into His Majesty's Exchequer, one hundred "eighty thousand and some odd hundred "pounds. I then strongly advise that this "House, putting aside all fantastical notions of "humanity, and sensibly minding our own in- "terest, should allow Dr. Jenner, or any one "else who does as much for the revenue, to "touch a neat premium of 20,000*l.*"

The House then divided upon the original motion for granting 10,000*l.* which was carried by a small majority of three: all those who approved of the amendment, voted in the minority. It is greatly to be regretted, that neither Mr. Pitt nor Mr. Fox attended the House, when a question so favourable for eloquence was agitated.

CHAP. IX.

PARLIAMENT RECONSIDERS THE FORMER VOTE, AND GRANTS AN ADDITIONAL REWARD.

The sanction of a vote of Parliament, and the unanimous applause of the House of Commons, enabled the Vaccine to assume a more lofty demeanor, and to advance with a more steady pace. The fame of Jenner also was now established; but no increase of his professional income ensued; though this expectation had been the chief reason for not acquiescing in the larger remuneration. This disappointment was owing to a peculiarity in human nature. Jenner was no longer considered as a mere physician; he was now conspicuous among philosophers. Ordinary indispositions were thought beneath his attention; and the imputation of being a speculatist is so terrific to the sick, that they usually preferred to him any common practising drudge. It is not always in proportion to their eminence as men of science, that physicians prosper; for the public is swayed in their selection by affection, rumour, fashion, and family influence: besides, the minds of invalids are frequently so enfeebled, that their imaginations are susceptible of chimerical apprehensions and ex-

travagant expectations. Plain dealing is then insupportable, and they are disposed to put much more confidence in the mysterious, than in the expounder of mysteries. The advantages resulting from Vaccination, and the inadequateness of the reward, became daily more evident; but the subject was neglected by the House of Commons, during the second and calamitous administration of Mr. Pitt. He was a man, whose commanding eloquence, soon after he opened his lips in Parliament, swayed this empire: and, except for a short interval after a voluntary resignation, he governed it until his death. When this event took place, in January 1806, his rival Charles Fox, then without a competitor, but declining in health, obtained the chief power. Lord Henry Petty * was immediately appointed Chancellor of the Exchequer, who in a few months afterwards resolved to bring the business of Vaccination again before the House of Commons. His Lordship accordingly, after giving the usual notice of his intention, addressed the House on the second of July, to the following effect:

"Mr. Speaker, I rise to call your attention "to a subject which concerns the health and "lives of a large portion of His Majesty's sub-"jects; and which therefore requires the most "serious consideration of Parliament: I allude

* Now Marquis of Lansdowne.

" to the discovery of a preventive of that loath-
" some disease the Small Pox, which spreads
" death throughout the world.

" It was in the year 1777, that Dr. Jenner
" first obtained some obscure knowledge of the
" peculiar property of the Vaccine. From which
" period he meditated profoundly on the subject,
" accumulated information, and instituted cau-
" tious, yet decisive experiments. At length he
" perfected the discovery of Vaccination, and
" published it for the benefit of mankind. A Par-
" liamentary inquiry into this important inven-
" tion was instituted four years ago, when incon-
" trovertible proofs of its eminent utility were
" submitted to this House, under the sanction of
" which, this great improvement in the practice
" of physic was gradually established throughout
" the British dominions. It was also adopted in
" foreign countries, and with greater zeal than
" in this. For, so early as the year 1799, vaccine
" lymph was transported to America, and has
" even reached the Indian tribes. In the year
" 1800, under the auspices of the Commander in
" Chief, it was conveyed to the Mediterranean,
" and was received with gratitude in Malta,
" Sicily, and the kingdom of Naples ; it was also
" soon disseminated not only throughout the
" whole Continent of Europe, but transported to
" India and China, producing every where all
" the beneficial effects averred by the discoverer.

" What has occurred at Vienna deserves parti-
" cular notice; because in that capital exact
" mortuary registers are kept. For some years
" preceding the introduction of Vaccination, the
" average number of deaths by Small Pox
" amounted to 835. Vaccination commenced
" in Vienna in 1799; and in the year 1802,
" only sixty-one persons died of Small Pox; in
" 1803, the numbers were reduced to twenty-
" seven; and in 1804, to two. Thus, in one city,
" there is already an annual saving of the lives
" of 833 human beings. This undoubted fact
" has made a deep impression upon my mind;
" but I am concerned to observe, that although
" Vaccination is diffused with success and appro-
" bation throughout other countries, yet here,
" where it was discovered, it has undergone in
" the last year a retrograde movement. For, in
" the city of London, previous to this discovery,
" the annual deaths by Small Pox amounted on
" an average to 1811 persons; this mortality
" was gradually reduced by the practice of Vac-
" cination to 629: but in the last year the con-
" tagion of Small Pox has been renewed by the
" baneful practice of variolous inoculation, and
" 1681 persons have fallen a sacrifice to this
" dreadful malady. This shocking destruction,
" especially when a certain preventive is known,
" demands our most serious deliberation: and
" I feel it incumbent upon me, in the situation

" which I now fill, to propose a plan which will
" bring forward a mass of evidence to ascertain
" the truth and enlighten the public. With this
" view I move, 'That an humble Address be pre-
" sented to His Majesty, praying he will be
" graciously pleased to direct His Royal College
" of Physicians to inquire into the state of vac-
" cine inoculation in the United Kingdom, and
" to report their opinion as to the progress it
" has made, and the causes which have retarded
" its general adoption.' Should this Report from
" the highest medical authority corroborate the
" favourable opinion which foreign nations enter-
" tain of Vaccination, it must greatly tend to
" subdue those prejudices which have been
" fomented here. And in that case, this House
" may afterwards consider, whether the inge-
" nious discoverer has been remunerated con-
" formably to the liberal spirit and character of
" this country."

Dr. Mathews then arose. " Sir, it is with
" much satisfaction that I second the motion
" which the Noble Lord has made; and I shall
" take this opportunity of expressing my senti-
" ments on this invaluable discovery. I confess
" that I at first distrusted the accounts of the
" success of Vaccination; and it was not till
" after carefully watching its progress, that I
" became convinced of its great superiority over
" Small Pox inoculation. There are three

" strong objections to variolous inoculation: " the first is, the malignity of the disease, from " which cause the countenance is sometimes " deformed with scars, at other times blindness " is produced, and occasionally a miserable " death ensues. The second objection is, the " raising up a baneful contagion which diffuses " the Small Pox in its worst form to others. " And the third is, that it excites scrofula; " numerous cases of which have come under " my own observation. From all these objec- " tions, Vaccination is exempt; and I have no " doubt that the country in a short time will " hasten to testify further marks of its gratitude " for the inestimable benefit it has received from " the learned physician by whom this discovery " was made. His name, I doubt not, will be " enrolled amongst those

" Inventas aut qui vitam excoluere per artis,
" Quique sui memores alios fecere merendo *."

Mr. Wilberforce succeeded, and said, " Sir, " that the Noble Lord, who fills a high and " powerful situation, should have taken up this " question, gives me the greatest pleasure; yet I " am disposed to doubt, whether the plan his " Lordship has suggested, is that which is the

* Æneid, lib. vi. l. 663.

" most likely to effect the purpose intended: I " conceive it would be a preferable course of " procedure, that a Committee of this House, " and another of the House of Lords, should be " nominated to make a full investigation of the " subject. The opinions of such unbiassed " persons would be more congenial to the feel- " ings of the people of this country, and far more " satisfactory, than any medical report from the " College of Physicians. This last might be sus- " pected of being influenced by professional " motives; whereas the other would be univer- " sally believed to proceed solely from a desire " to promote the general good.

" There is another measure which might be " adopted with justice and propriety, for which " there are many precedents. The laws of qua- " rantine have long been enforced, and with in- " finite advantage, to secure the public from the " contagion of the plague. Why should we not " impose the same control over those infected " with other diseases, whose intercourse is at- " tended with as fatal consequences? We " know, Sir, by long experience, that the Small " Pox is nearly as destructive a distemper as " the plague itself; and therefore great advan- " tage would accrue to society by prohibiting " persons labouring under the Small Pox from " mixing with others. The permission to va- " riolated persons of going abroad is of no use

" to them, but of great detriment to the com-
" munity. And places of reception for those
" infected children, whose parents have not the
" means of confining them, might be established
" by Government. These hints are thrown out,
" that gentlemen may bear them in their mind.

" That Vaccination should have made less
" progress here where it originated, than in other
" countries, is not surprising to me. This is
" owing to one of those curious principles in the
" human mind, that inventions create more
" astonishment and admiration in distant places,
" than on the spot where they were found out,
" and where the persons, and accompanying cir-
" cumstances, are familiarly known. Nothing,
" perhaps, would tend more to overcome this
" neglect of Vaccination in the place of its
" birth, than to infuse information into the
" minds of the people,; and to instruct them
" completely in the success it has produced
" abroad: by this means we shall enlighten the
" public, and subdue those absurd prejudices
" which have been engendered and fostered by
" certain selfish, interested individuals."

Mr. Windham then replied, "The only point
" upon which there appears any difference of
" opinion, is the mode of effecting the object
" we have in view; and I must say, that I am
" rather inclined to give the preference to the
" motion brought forward by my Noble Friend,

" The other proposal consists in substituting " an investigation by a Committee of Parliament, " to that by the College of Physicians. But I " am of opinion, that Members of this House " are less competent to form a sound judg- " ment upon this subject, than medical men; and " as this incompetency would be clearly per- " ceived by the public, our Report would not " have sufficient weight with the people, and " would neither allay their suspicions, nor be " a guidance for their conduct. But a Re- " port from that learned and respectable body, " the Royal College of Physicians, when for- " mally called upon by Parliament, will make a " most forcible impression. Parliament can " then come forward just in the way it ought, " and add by their authority a superior degree " of solemnity to the decisions of the chiefs of " the medical profession. To a Committee of " this House the common adage might be ap- " plied, *Ne sutor ultra crepidam.* For it is well " known that a man is a better judge of matters " relating to his own business, than those who " were not brought up to it. I think then, on " the whole, that the plan of my Noble Friend " would have infinitely a better chance of over- " coming the public prejudices, and of giving " validity to the opinions of those who are best " able to judge of the merits of the invaluable " discovery made by Dr. Jenner. The Honour-

" able Gentleman who spoke last also recom-
" mended a certain degree of compulsion to
" prevent contagion spreading among the people.
" Such measures should not be adopted without
" an urgent necessity; and if this can be proved
" to exist, then Parliament is blameable for not
" having adopted them sooner. I know, how-
" ever, that if any kind of compulsion is em-
" ployed, that moment there is a hatred excited
" in the public mind against what may be judi-
" ciously advised; I therefore should be ex-
" ceedingly unwilling to resort to such a mea-
" sure; being persuaded that the mild and consi-
" derate recommendation of Vaccination by Par-
" liament will go infinitely further than any
" species of restraint. When this previous point
" has been decided upon to the satisfaction of
" the public, then will be the time to remune-
" rate that meritorious individual, to whom
" society owes the utmost gratitude. And I
" cannot help thinking he has not yet been suf-
" ficiently rewarded for the expense and trouble
" the discovery has cost him."

Mr. Banks then gave this opinion: " Sir, it
" appears to me that the mode proposed by the
" Noble Lord is exceedingly eligible at this late
" period of the session, in so far as he wishes to
" combine the science of a learned body with
" the deliberations of the House of Commons:
" but if this motion had been made at an earlier
" period of the session, I cannot help thinking,

" that there could not have been a better mode of
" procedure, than the other which has been pro-
" posed by my Right Honourable Friend. Even
" those best aequainted with this matter cannot
" pretend to give an accurate account of the
" real sources from which the existing preju-
" dices have arisen against Vaccination. The
" fact which remains to be more clearly ascer-
" tained is, whether this discovery, in the mode
" in which it is now practised, is of such a sort,
" as to afford us a reasonable security against
" the ravages of that more dreadful disorder,
" which it is intended to prevent. This, Sir,
" appears to me a question by no means of a
" scientific nature; so that any number of rea-
" sonable men are as capable of laying it dis-
" tinctly and clearly before the public, as
" the most learned body that ever existed.
" There is an improvement, or rather an addi-
" tion, which I am inclined to suggest, to the
" Noble Lord's motion; that is, the junction of
" another learned body, who have been rather
" overlooked on this occasion, the Royal College
" of Surgeons. And I cannot help stating, that
" I still persevere in the opinion I formerly
" entertained; if this discovery be of the
" utility which I hope it will prove to be, it
" will make its way in spite of all opposition:
" and in such a country as this, by the im-
" mense extension of Dr. Jenner's medical prac-

" tice, the learned Doctor will find himself well " remunerated without any thing further from " Parliament."

Mr. William Smith and Mr. Paull both supported the motion; then Lord Henry Petty concluded the debate to this effect: " I expe- " rience a very great degree of satisfaction from " finding the House so unanimous in their " agreement on the general object I had in view. " The motion which I considered it incumbent " on me to make for instituting an inquiry by " the College of Physicians, is intended to com- " prehend all the weight of scientific know- " ledge, combined with the authority of the " government of the country. I cannot agree " with the Right Honourable Gentleman oppo- " site, who suggested the plan of leaving this in- " quiry to a Committee of Parliament, because " there are points to be investigated, which " Members of Parliament are incapable of de- " ciding. Can they judge in doubtful cases, " whether Vaccination had been performed " according to the rules of art? whether the " vesicle was pure or spurious? or, whether the " process had proceeded regularly? If an " eruption broke out afterwards, it would be " impossible for them to determine its nature; " and if other maladies ensued, they could not " decide whether they proceeded from the Vac- " cine, or from other causes. These, and many

" other questions of peculiar nicety, which fre-
" quently occur, can only be solved by the
" accurate judgments of experienced medical
" men. The proposal to annex the College of
" Surgeons to this inquiry, had not escaped my
" consideration; but it is requisite that the in-
" quiry should proceed from a centre; and the
" College of Physicians in London, will apply
" not only to the College of Surgeons, but to the
" Medical Colleges in Scotland and in Ireland,
" for every information that can be collected
" on this important subject. Thus will the
" opinions of the most learned and scientific
" professional men of the three kingdoms be
" combined: this House will then avail itself of
" this accumulated heap of evidence and inform-
" ation, and form a decision upon the subject;
" and the whole will be laid before the public, to
" remove their prejudices, or confirm their
" doubts. Such, Sir, is the mode which appears
" to me the most eligible, and I trust that the
" House will unanimously agree in the motion
" which I have this day submitted to them.
" Before concluding, I cannot help taking notice
" of one other particular which has been touched
" upon in the course of this discussion: it
" related to the remuneration which has been
" already granted by Parliament to Dr. Jenner.
" If the Report shall express such a favourable
" opinion of the practice of Vaccination as I

" have no doubt it will, then I shall think it my " duty to contend on a future day that the remu- " neration which was granted to Dr. Jenner " for this invaluable discovery is much more " inadequate than it ought to be."

The motion was then put from the Chair, and agreed to without one dissenting voice. It was next ordered, that the address should be presented to His Majesty by such Members as were Privy Counsellors.

The Royal College of Physicians soon received His Majesty's commands to inquire into the state of Vaccination, and to report their opinion. On which they immediately entered upon the business with great alacrity. In aid of the knowledge of their own body* they applied to each of the licentiates of the College; they corresponded with the Colleges of Physicians of Edinburgh and Dublin; and with the Colleges of Surgeons of London, Edinburgh, and Dublin. They also wrote to the societies established for Vaccination for the result of their practice; and invited by public notice every individual who had any information to give, to send it to them. By those numerous applications extensive information was accumulated. All the Medical Colleges, except the College of Sur-

* Vide Report of the College of Physicians of London, 1807.

geons of London, obeyed the wishes of Parliament; assembled, deliberated, and, after mature consideration, transmitted a full and clear declaration of their opinion of the new practice. The Court of Assistants, who preside over the affairs of the Royal College of Surgeons of London, adopted a peculiar method of proceeding: instead of assembling the Members of the College, to obtain their opinion collectively on this important business, it was only referred to the subordinate Board of Curators. This Committee considered it expedient to issue circular letters to the Members of the College, who were solicited to communicate the results of their practice in Vaccination, and their opinion upon the subject individually. A very considerable number of surgeons made no reply; however, four hundred and twenty-six answers were sent, among which were letters from those most hostile to Vaccination, who eagerly seized this occasion of transmitting the most unfavourable accounts. It is indeed extraordinary, that, with such an opportunity, the disasters reported were so few, and the proportion of successful events so numerous. The Board of Curators made a brief abstract of the contents of those letters, which stated, that the writers had vaccinated 164,381 persons: in fifty-six of whom Small Pox had occurred afterwards; in sixty-six, eruptions of the skin had followed; and in

twenty-four, inflammation of the arms had taken place, which proved fatal in three cases. The Court of Assistants made no inquiry respecting the authenticity of those accidents, nor even into the cause of the reported deaths: which, however, were ascertained by a private investigation, to have been occasioned by gross ignorance in the treatment of three poor children in a parish workhouse.

As the Corporation of Surgeons of London had lately been elevated to the rank of a Royal College, a luminous and argumentative exposition of their sentiments might have been expected upon this professional parliamentary inquiry. It was an opportunity to be embraced for displaying learning, ingenuity, and disinterestedness. But their Court of Assistants had no ambition to shine, no zeal to be useful: they could not so soon strip off the garb of craftsmen, and assume the robe of academicians; they therefore only passed a precise vote, that the Report of the Curators should be adopted as theirs. And the dry summary of the letters they had received, without a syllable of commentary, and without even expressing an opinion on the subject in question, was presented to Parliament, as the quintessence of the knowledge of the Royal College of Surgeons of London upon the Vaccine.

The other medical corporations acted dif-

ferently. The Royal College of Physicians of Edinburgh were summoned to meet, and after deliberating, declared, that Vaccination was universally approved of by the medical profession in that city; and that the practice had been much more generally adopted in Scotland, than Small Pox inoculation had ever been. The evidence in favour of it appeared to them so strong and decisive, that in May last, they spontaneously and unanimously had elected Dr. Jenner an honorary fellow of their college; a mark of distinction which they very rarely confer, and which they confine almost exclusively to foreign physicians of the first eminence. And this was done with a view to publish their opinion with regard to Vaccination, and in testimony of their conviction of the immense benefits which have been, and which would in future be derived to the world from it; and as a mark of their sense of Dr. Jenner's very great merits and ability in introducing and promoting this invaluable practice.

The Declaration of the Royal College of Surgeons of Edinburgh, agreed to in a full assembly, was equally satisfactory: it stated that Vaccination had increased in that city so rapidly, that for two or three years past the Small Pox had been reckoned rather a rare occurrence. They had pleasure in reporting, that, as far as

their experience went, they had no doubt of the permanent security against the Small Pox, which is produced by the constitutional affection of the Vaccine; and also, that they had met with no occurrence which operated in their minds to its disadvantage. They had seen no instance of obstinate eruptions, or of new and dangerous diseases, which they could attribute to the introduction of this mild preventive of the Small Pox.

It appeared from the Reports of the two Colleges at Dublin, that Vaccination flourished in Ireland as much as in Scotland. The King and Queen's College of Physicians reported, that the general introduction of Vaccination into Dublin, and throughout Ireland, was in the year 1804; that the practice had been found safe, and fully to answer all the purposes that had been intended. Some cases had been reported to them of persons suffering from Small Pox who had been vaccinated: but upon minute investigation, it had been found that these supposed failures originated generally in error, in misrepresentation, or in the difficulty of discriminating between Small Pox and other eruptions; and that no case had come to their knowledge, duly authenticated by respectable and competent judges, of genuine Small Pox succeeding the regular vaccine disease.

The Royal College of Surgeons of Ire-

land confirmed the above, declaring that Vaccination was now generally adopted by surgical practitioners in all parts of that kingdom: that in their opinion the Vaccine was a mild disease, and rarely attended with danger, or any alarming symptom; and that the few cases of Small Pox, which had occurred in that country, after supposed Vaccination, had been satisfactorily proved to have arisen from accidental circumstances, and could not be attributed to the want of efficacy in the genuine vaccine infection, as a preventive of Small Pox.

These documents, and all others which could be collected, were carefully digested by the London College of Physicians, who framed from the whole one comprehensive Report, which was laid before the House of Commons. The substance of this was, that during the eight years which had elapsed since Dr. Jenner made his discovery public, the progress of Vaccination had been rapid, not only in all parts of the United Kingdom, but in every quarter of the civilized world. In the British islands, some hundred thousands had been vaccinated; in our possessions in the East Indies, upwards of 800,000; and amongst the nations of Europe the practice had become general. Vaccination appeared to the College of Physicians to be in general perfectly safe; the instances to the contrary being extremely rare. The security derived from Vaccination

against the Small Pox, if not absolutely perfect, is as nearly so, as can, perhaps, be expected from any human invention; for, amongst several hundred thousand cases, with the results of which the College have been made acquainted, the number of alleged failures has been surprisingly small: so much so, as to form certainly no reasonable objection to the general adoption of Vaccination. Indeed it appears that there are not nearly so many failures, in a given number of vaccinated persons, as there are deaths in an equal number of persons inoculated for the Small Pox; and it is a most important fact, that in almost every case where Small Pox has succeeded Vaccination, it has neither been the same in violence, nor in duration; but has, with very few exceptions, been remarkably mild, as if the Small Pox had been deprived by the Vaccine of all its usual malignity.

The College is also very decided in declaring, that Vaccination does less mischief to the constitution, and less frequently gives rise to other diseases, than the Small Pox, either natural or inoculated. It is from a consideration of the pernicious effects of the Small Pox, that the real value of Vaccination is to be estimated. The natural Small Pox has been supposed to destroy a sixth part of all whom it attacks, and about one in three hundred perish, even of those who are inoculated. It is not sufficiently known,

that about one tenth of the whole mortality in London is occasioned by the Small Pox; and inoculation appears to have kept up a constant source of contagion, which has been the means of increasing the number of deaths. Until Vaccination becomes general, it will be impossible to prevent the constant recurrence of Small Pox, by means of those who are inoculated, except it should appear proper to the Legislature to adopt in its wisdom some measure to prevent those infected with Small Pox from doing mischief to their neighbours. From the whole the College of Physicians feel it their duty strongly to recommend Vaccination; and they conceive that the public may reasonably look forward with some degree of hope to the time when all opposition shall cease, and when the general concurrence of mankind shall at length be able to put an end to the ravages at least, if not to the existence, of the Small Pox.

Before the above Report, which is dated April 10th, 1807, was laid before the House of Commons, a total change had taken place in the Cabinet, and the administration of Mr. Perceval had commenced. On July 29th, 1807, the Commons being in a Committee of Supply, the Right Honourable Spencer Perceval, Chancellor of the Exchequer, addressed the Chairman as follows: "I am to solicit the attention of this "Committee to the subject of Vaccination,

" brought into practice by Dr. Jenner, as a " preventive of the Small Pox; a malady which " has for many ages been one of the greatest " afflictions to mankind; and from the visitation " of which hardly any human being is spared. " Dr. Jenner was the inventor of this preventive, " which was either not known before, or cer- " tainly never before communicated. And if, upon " a minute and scrupulous inquiry, it should " appear, that this is an absolute antidote to the " Small Pox, it is a discovery of which it is im- " possible to express sufficient admiration, and " impossible to appreciate its value. I should " hope, that when the Committee consider the " extent of the advantages which mankind have " already received from this invention, and the " incalculable benefits which will be derived " from its general adoption, they will not think " the proposal which I shall have the honour to " make extravagant, but regard it as an act of " justice, rather than of liberality. For a dis- " covery of this nature ought to be marked with " something that shall convey the sense we " have of its importance, observing at the same " time an economical regard to the interest of " the public. It is therefore my intention to " move, that there shall be granted to Dr. Jen- " ner, as a reward for his matchless discovery, " the additional sum of 10,000*l.* which is the " remainder of that grant which his friends re- " commended to the House on a former occasion.

"To those who have taken the trouble to "read the Report of the Royal College of Phy- "sieians, it eannot be necessary that I should "make a single observation; as all must per- "eeive, from the facts there stated, the immense "advantages of this new practice. As to the "ineonvenienees whieh may have arisen from "it, in any shape, they are eomparatively almost "nothing to the evils which would have follow- "ed the ordinary course of Small Pox inoeula- "tion; and may be said to be literally nothing, "when we consider that the few unfavourable "cases may have proceeded from the mistakes, "ignorance, or inattention of the practitioners. "We may, perhaps, be met by a faneiful ob- "jeetion to this discovery founded on the doe- "trine of Malthus: for it has been said, that "diminishing the number of deaths is of no ad- "vantage to the eommunity at large, without in- "creasing the means of subsistenee. But if even "this should be proved to be true, I should an- "swer, that I eare not for that declaration; for, "although I should like any plan that would "eonduee to the general interest of the state, "yet I like the practice of humanity better; "and, I apprehend, we have no right to aet "upon sueh an argument, even if it were true. "I apprehend it to be our duty to preserve hu- "man life in every ease wherein the individual "has not forfeited it by the eommission of some

" crime for which the law has denounced the " penalty of death. Whatever plausibility " there may be in that system of philosophy " which teaches that an increased population is " an inconvenience to a state, yet for my own " part I think there is no inconvenience so great " as that of constantly opposing the common feel- " ings and common dictates of humanity. And " I have often heard that the best riches of a " state are the number of its inhabitants; but " whether the new doctrine against population is " true or false, no case has been made out to " show that Dr. Jenner ought not to be rewarded " with the sum of 20,000*l*. I do not mean to " attempt to estimate those lives which will be " saved by this invention; for, were we to pro- " portionate our reward to the value of the dis- " covery, I know not where we should stop; " nor do I know what is adequate for the devo- " tion of the time of a man of learning and ge- " nius: all I can say is, that, in my opinion, the " sum which I propose is extremely moderate.".

Mr. Shaw Lefevre opposed the motion of the Minister by the following speech: " It is with " very great reluctance that I rise to oppose an " act of liberality; but I am acting solely by " what I conceive to be my duty: I was one of " those who on a former occasion thought that " the application to the House of Commons for " 20,000*l*. was excessive, and I concurred with

"those who voted for the half only. I ac-
"quieseed in that sum from the faith I had in
"the Report of a Committee of this House;
"but I now find from the Report of the College
"of Physicians, that many of the statements
"in the former Report were unfounded. The
"first Report stated, that the practice of Vac-
"cination was infallible; but now it appears
"that there are fifty-six cases of real failures. It
"was also formerly stated, that no other disease
"would follow; but now it seems by the Sur-
"geons' Report, that after Vaccination a scro-
"fula has appeared, and some other alarming
"symptoms. I should like to call witnesses to
"the Bar of this House, by whose testimony I
"understand it will be made manifest, that the
"Report now before us is inaccurate. Besides,
"I do not think this late period of the session
"a proper time for voting away a considerable
"sum of the public money. As to Dr. Jenner
"himself, he is a person for whom I have great
"respect; but it is said that a man of the name
"of Jesty found out this remedy; and if this
"House chooses to be liberal, this vote should
"be extended to that man, or to his family. I
"certainly shall oppose this vote; but I ought
"to add, that I do not know that I shall
"always oppose it: my great object is to gain
"time; because I am sure that I want further
"time to satisfy myself on the subject."

The last observation was a very sensible one.

Lord Henry Petty, who had originated the present discussion, supported the motion of his successor in office thus: "The hesitation which "I feel upon the proposition before us, does not "arise from the motives which have occasion-"ed the dissent of the Honourable Gentleman "who spoke last. It proceeds neither from "any doubt of the efficacy of Vaccination, nor "of Dr. Jenner's being the discoverer, but "from the difficulty of finding any rule for "administering justice in this case: for, who-"ever considers the value of this discovery "must perceive, that it is impossible for this "House to act towards him with generosity. "Yet it has been objected, that this invention is "not infallible. If this divine attribute should "be insisted upon before a discovery can be en-"titled to reward, no man on earth could ever "receive one. We shall look in vain for infalli-"bility in the labours of men, especially in their "researches in the science of medicine; for "uniformity in the action of remedies depends "upon the general principles which govern the "operations of the human organs; and ought "not to be expected in every curious deviation "from the usual course of nature, or in every "extraordinary variety of any of the diseases "which it shall please divine Providence to "afflict us with. Absolute, never-failing per-

" fection ought never to be dreamed of in any
" human invention; and we should be well
" contented with so near an approximation as is
" found in the present discovery. The benefits
" daily springing from it are numberless: even
" in the few years that are past, multitudes of
" seamen, soldiers, and citizens of every de-
" scription have been already saved by it. But,
" in contemplating the comprehensive scale of
" its future effects on the human race, the mind
" is lost. It is impossible to find out any com-
" mensurate standard to guide our judgment in
" rewarding the inventor: but we should re-
" member the estimation in which he stands all
" over the world: we should remember also,
" that we are now acting in the view of other
" nations, and that our own character depends
" much upon the computation we form of the
" successful mental efforts of men of science.

" As to the system of Malthus, this, in my
" apprehension, has been misconceived by the
" Right Honourable Gentleman who opened the
" debate. It is a system, the result of deep
" thought; the product of a philosophical mind,
" on which I do not pronounce any opinion. It
" is confined to the conduct of a population;
" but there is nothing in it which forbids the
" extinction of an infectious disease, and espe-
" cially of one which occasions a great diminu-
" tion of human happiness. Independent of

" the reward due to Dr. Jenner, there are other
" measures, which well merit the serious consi-
" deration of this House. It is grievous to hear
" of the numerous deaths which are still occa-
" sioned by the inoculation of the Small Pox.
" Yet, in my zeal for Vaccination, I wish for no
" measure of compulsion, nor for any interfe-
" rence in the practice of individuals, however
" absurd that may be, for the preservation of
" themselves or their families. But I have no dif-
" ficulty in saying, that no individual has a right
" to conduct himself so as to endanger the lives
" of others. It has been proved that those who
" have been inoculated with Small Pox, by going,
" or being carried abroad, spread the fatal con-
" tagion to others. I therefore think, that the
" state has not only a right, but that it is its
" duty, to oblige those who are infected with
" Small Pox to remain at home, that this pest
" may not be disseminated amongst the com-
" munity. It is a gratifying circumstance to ob-
" serve, that the learned professors of the
" science of medicine, and a very large propor-
" tion of the practitioners, have neither been
" misled by their interest, nor by narrow preju-
" dices, but have acknowledged the excellency
" of this discovery, and have supported it with
" zeal. We have the further satisfaction to see
" that whatever the state of this world may be in
" many respects, certainly its appetite for the

"reception of useful knowledge is greater than "it was at any former period of its history. I "shall not move any amendment to the resolu- "tion now before us; but I own I should have "no difficulty in acceding to one for a larger "sum."

General Tarleton then arose: "After the "luminous speech we have just heard, I should "not have presumed to trespass on the time of "the Committee, were I not convinced that it "was my duty to offer a tribute of applause "to the author of this blessing to mankind; "which to my knowledge has saved the lives of "many subjects in His Majesty's service. Vac- "cination has been found of peculiar utility to "soldiers; who during the whole process can "continue to march under arms, and perform "every military duty. It has been thought "that gentlemen in the army were never dis- "posed to extol any but successful generals. "But I hope that most officers know how "to admire the preserver of millions; and will "allow that, in future ages, the glory of Dr. "Jenner's fame will be superior to the trophies "of the most renowned warriors."

Mr. Sturges Bourne and Mr. Hawkins Browne both supported the motion, and con- curred strongly in the opinion maintained by Lord Henry Petty, that persons infected with Small Pox ought to be restrained from promis-

cuously mingling with the public, and spreading the contagion. The latter gentleman displayed uncommon candour, by attaching shame to himself, for having on a former occasion voted for the lesser remuneration to Dr. Jenner, owing to his being at that time unacquainted with the decisive proofs in favour of the new practice.

Mr. Edward Morris next expressed himself to this effect: "Notwithstanding the powerful "arguments we have heard, I do not think that "Dr. Jenner's strongest claim on the gratitude "of the public has been hitherto sufficiently "pointed out. The great merit of this discovery is, that you may reasonably expect from "it the extermination of the Small Pox; and "the great merit of Dr. Jenner is, that this "transcendent discovery is all his own. Inoculation in the old mode only mitigated the "disease in a few, and extended it in all its "violence to many. Instead of benefiting "mankind, it was therefore prejudicial, and the "Small Pox Hospital is a pestilential source "which multiplies the victims of this deplorable "distemper. The pre-eminent distinction of "the new practice is, that it preserves the individual, and injures no other person. Whoever adopts it receives an important benefit, "and no evil is communicated to others. It is "exclusively to the enlightened mind and "happy invention of Dr. Jenner, that we owe

" this preventive; nor has any one, since its
" promulgation, made any suggestion which
" deserves the name of improvement. It seems
" to me, Sir, we are also bound to consider
" that this physician, instead of solely occupy-
" ing himself in the lucrative pursuits of his
" profession, devoted much of his time for many
" years, to perfecting this discovery. He was
" thus busily occupied in promoting the interest
" of the public, and I shall therefore submit to
" the Committee, an amendment of the resolu-
" tion, and propose granting to this gentleman
" 20,000*l.* instead of 10,000*l.* to mark that sense
" we entertain of his merits, and to place him in
" a state of independence."

The amendment was supported by Sir John Sebright and Mr. Herbert. Mr. Wilberforce then spoke on the same side with great sincerity and good judgment; and Mr. Windham with extreme ingenuity.

The Chancellor of the Exchequer strove to check this torrent, and said: " The question
" now before us is, whether the sum which I
" have had the honour to propose to the Com-
" mittee ought to be increased, or not. Now,
" upon the fullest consideration, and after allow-
" ing to the very able arguments which I have
" heard all the weight which they deserve, I can-
" not help retaining my first opinion. I hope
" the Committee will have a special regard to

"the times and circumstances, in voting the "public money; and I trust that I shall stand "excused by the liberality of the House, for the "part which I am taking, and which appears "to me to be the only part which I can take "with propriety. I apprehend, that, in point of "precedent, the Committee are not sanctioned "in adopting the amendment; since I believe "there is no instance in which the sum pro-"posed by a person in my situation to be raised "out of the public money, has been increased "by the amendment of any other Member of "Parliament. I also apprehend that the adop-"tion of any legal measure whatever, to for-"ward the progress of Vaccination, would do "more harm than good. It is more congenial "to the feelings of the public to leave the dis-"covery to its own merits. For, if you attempt "to do away prejudices by force, you will find "prejudice will attach the longer to those who "are under its influence. No one can suppose "that I am actuated by any improper motives "towards Dr. Jenner, whose merit, I admit, "claims a much larger reward than it is in our "power to afford; as no money can be deemed a "compensation for the use of his discovery. But "that is not the rule by which we are to mea-"sure our reward; and I feel that I am bound "to say, if the House should run away with "the idea that 20,000*l.* are not too much to be

" voted on the present occasion, it will in my " judgment exceed the bounds of propriety; for " then the sum will amount in all to 30,000*l.* " which is, I believe, without a precedent."

Mr. William Smith did not submit to these objections: he read to the House an abstract from the Madrid Gazette, giving an account of the expedition of Don Balmis, who disseminated the Vaccine through every province of South America, and extended it to the most remote Asiatic nations. He thence showed how much more highly Dr. Jenner was esteemed in foreign countries, than in this; illustrating a maxim from the highest authority, That a prophet hath no honour in his own country. He pressed the Committee to grant the larger sum, notwithstanding the opposition of the Chancellor of the Exchequer, who, he said, from his office, was bound to be sparing of the public purse, but who would not be displeased to find himself overborne by the general sentiments of the House, of the country, and of the world.

Mr. Whitbread then started up, and said: " I find myself called upon to add a few words, " lest the objections that were made should " damp the intended liberality of the House. " The Committee should bear in mind the dis- " interested conduct of Dr. Jenner; who, ac- " tuated by principles of beneficence, scorned " to monopolize Vaccination; though by that

" means, he could easily have realized a far " greater fortune than the amended motion can " confer.

" I call upon the country gentleman to vote " for the larger sum, because this discovery " hath furnished the means of lessening the " poor rates. For, the consequence of diminish- " ing the Small Pox, that scourge of the human " race, must be, that there will be less affliction " from disease, and eventually less poverty; " and consequently the burden of the poor rates " will become lighter. This reasoning is cor- " roborated by the papers before us; where we " find that ulcers, and various scrofulous com- " plaints, were common after the Small Pox, but " that no such evils are produced by Vaccina- " tion. This invention, therefore, not only pre- " serves the health of the poor, but keeps money " in the pockets of the rich. From which con- " sideration Dr. Jenner is particularly entitled " to the support of the landed interest. This " narrow view of the subject is all that is left " me; for several Gentlemen, particularly my " Noble Friend, have anticipated me, in dis- " cussing the question philosophically, and have " depicted this blessed improvement of the " science of medicine in the most glowing " colours. I also wish to guard the Committee " against any expectation of this disquisition " being renewed. This is the moment to reward " Dr. Jenner; and let not the opportunity slip;

" nor let us, when liberality is called for, think " only of economy: that which is called eco- " nomy in this case, would, if adopted by the " House, be disgrace."

Mr. Fuller, Mr. Baring, Admiral Pole, and Mr. George Rose, junior, all spoke in succession in favour of the amendment; and at length the House divided upon the question, that twenty thousand pounds should be granted to Dr. Jenner: sixty votes were in favour of this sum, and forty-seven against it. Thus the amendment was carried against the Minister by a majority of thirteen.

CHAP. X.

VACCINE INSTITUTIONS.

In the preceding discussions, the regular succession of events has been in some degree sacrificed to preserve unity of matter: and it now becomes requisite to revert to transactions which commenced previously to the Parliamentary inquiries.

It was soon perceived, that the extension of the new practice was much retarded by the want of a constant and convenient supply of vaccine lymph. The voluntary distributions of a few patriotic surgeons, was at first the principal source; for the equivocal institution founded by Dr. George Pearson, was conducted on so mercenary a plan, that it could be of little use. In order to obviate this impediment, Dr. Jenner resolved to establish a Vaccine Society upon different principles; and to place the medical department under the direction of the most eminent professional gentlemen in London. Accordingly, in the year 1803, proposals to that effect were printed and circulated. The plan met with most distinguished approbation; for the King, Queen, and every British Prince and

Princess, accepted the title of patrons and patronesses; and multitudes of the nobility and gentry became members of an Institution, which by unanimous consent was denominated the Royal Jennerian Society.

In a country where charitable foundations have often been richly endowed by individual merchants, it must excite surprise, that the funds of one so illustriously patronized, should have been scanty. This inconvenience was to a certain degree compensated by disinterested offers of services from a number of surgeons. A house was then taken in a central situation, for conducting the business of the Society; and, unfortunately, Dr. Walker was appointed, with a competent salary, the resident vaccinator. Twelve other stations were established through the town, the duties of which were executed by surgeons, who accepted no remuneration: at these places Vaccination was performed on all applicants, and lymph was distributed gratuitously: for the regulations were most liberal, and the medical offers, generous to excess. But such a plan is not calculated for duration. It cannot be expected, that those who subsist by a profession, should devote a constant portion of their time to unrecompensed labour. Zeal will relax; and profitable calls will interrupt the regular discharge of eleemosynary duties. From these causes, the business of some of the stations, after

a time, declined: yet in others, the attendance was regular; great numbers of the poor were annually vaccinated; and the surgeons were rewarded for their assiduity by their internal feelings alone.

This subscription society, like most others of the same kind, was defectively organized, and could not maintain a sufficient control over the executive officers. Yet, as Dr. Walker was a professed Quaker, it was to be expected that his ways would be those of peace, and of passive obedience. But, on the contrary, a spirit more than Roman, moved him to despise arrogantly all obedience to those above him, and to trample contumeliously upon those beneath him. Complaints of this conduct were soon made, quarrels ensued, and the house established by philanthropy was in an uproar. Committees and general meetings of the subscribers were frequently assembled to compose these differences, but in vain; for the high-minded Quaker dissented from the opinions of Dr. Jenner, disobeyed the medical regulations of the Society, and published openly a mode of practice different from that which he was instructed to follow. His method of taking lymph was to cut open the vesicle, and to wipe out the contents with lint, in order to procure the fresh secretion. This harsh treatment of infants was the reverse of that which he was directed to em-

ploy; and as he was unalterable in his resolutions, it was at length deemed requisite to remove him.

But in a numerous society, imperfectly regulated, and whose government was purely democratic, such a measure could not be effected without a violent struggle. Some of the subscribers were chiefly influenced by tenderness to the children who were to be vaccinated, and by a sense of public duty: while others were actuated by compassion to Dr. Walker, and the entreaties of his friends. As the contest proceeded, cabals and the spirit of party arose, and many contended only for victory.

Though the question was completely foreign to polemics; yet the religious professions of the subscribers seemed to influence their votes; for a great majority of the Episcopalians, Dissenters, and Freethinkers, agreed in the deposition of Dr. Walker; but the Quakers were the staunch supporters of a delinquent of their own sect. In this beneficent Society, they were even at first somewhat numerous; and many others of this persuasion had latterly hastened to subscribe; whose charity was simultaneous with the perilous condition of Walker. At all general meetings their broad-brimmed hats shaded the boards; for their schismatic assiduity was most conspicuous, though their primitive meekness was indiscernible. In support of their friend, they

argued slily, wrangled tumultuously, and voted almost unanimously. Yet, in spite of this contentious pertinacity, the turbulent Quaker, on the motion of Dr. Jenner, was dismissed from his office, and peace was restored.

On this discomfiture, the vanquished party, instead of submitting with Christian resignation, seceded in a fury from the Jennerian Society, new-modelled another, which they named the London Vaccine Institution, and placed at the head of it Walker their champion. The subscriptions of these seceders being inadequate to the support of the institution, schemes were immediately set on foot for drawing in the wealthy of every persuasion. Perambulating petitioners, well versed in the art of awakening charity, were sent through the town; and the allowance of a per-centage so quickened the zeal of these seekers of money, that it was hardly surpassed by that of the old puritan seekers of the Lord. Their method of proceeding will be explained by the following anecdote.

A Noble Duke one day informed me, that he had just acceded to what he was sure would be very agreeable to me. He then related, that, on that sultry day, a steaming, squab, broad-faced man, in a Quaker's garb, with his hat on his head, had entered his room, saying, "Friend, "I am come on a charitable mission to request "your mite." The Duke, amused with the oddness of the salutation, desired him to be seated,

and to explain his business. The Quaker being quite prepared, wilily suppressed all mention of the disputes in the Jennerian Society, and of the dismissal of Dr. Walker, which were the causes for soliciting this subscription ; but prolated tediously on the utility of Vaccination ; and, by awkward encomiums on Dr. Jenner, led the Duke to believe, that the subscription was solicited for a society patronised by him. This cunning and prolix harangue drew forth the Duke's purse, which the Quaker spying, unrolled his list, and added His Grace's name a useful decoy for others. Having attained his object, he mercifully got up, saying, " Friend, " fare thee well ;" then turning his back courteously, strutted out with an uncouth gait, and an air of uprightness. By such artifices a large subscription was raised from those who prefer paying to inquiring ; for personages who have nothing to do, are sometimes liberal of their money, but always parsimonious of their leisure. In the mean time the Jennerian Society diminished in numbers, and, undermined by calumnies, declined, and another false step at this crisis completed its downfall.

It was requisite to elect without delay a resident medical officer ; and a young Irish surgeon, unprovided for, started up as a candidate. He was intimate with a learned physician of great weight in the Society, who possessed many esti-

mable qualities; but was so warmly attached to his friends, that he was blind to their failings. From this weakness he yielded to the solicitations of the youth; and, as the duty was light, he recommended him as a person qualified for the office. This candidate was successful in his canvass, for he was prepossessing in his address, and in every thing the reverse of Dr. Walker. But all extremes are disqualifications. The new Vaccinator was jocund and volatile, and fancied himself a poet; though his faint inspirations were only produced by the bewitching juice of the little western flower called love in idleness. He hated the trammels of business, and always had a ready gibe to flout at order. So, when mothers brought their children early in the morning to be vaccinated, he was sometimes fast asleep; and when they carried them late, he had perhaps strolled abroad. Even when seated seriously at home, the drudgery of registering cases was apt to be postponed, while he was listlessly rhyming a piteous sonnet to his sempstress. Such a character was far from irreclaimable; but the Vaccine might have languished long, and the Small Pox might have made wasteful havoc, before the boiling spirits of this juvenile Hibernian could be cooled down to the medical point. Jenner often communicated to me his distress confidentially, for I had long sympathized with him in all his troubles. It

was evident that a Society thus conducted could do but little good; and that, if more efficacious measures were not pursued, the Vaccine could make but slow progress against an unceasing opposition. I therefore suggested, that, instead of trusting any longer to a subscription society, which had been found replete with difficultics, he should endeavour to make the business of Vaccination a national concern. With this view, the President of the College of Physicians should be consulted, and a proposal made to him to combine in an application to Government to erect an establishment under the control of the Colleges of Physicians and Surgeons of London. Delighted with this scheme, he assembled some of his most faithful coadjutors; who, after a few sittings, drew up a digested plan for such an institution. This was carried by Dr. Jenner to Sir Lucas Pepys, the President of the College of Physicians, who warmly approved of it, and agreed, in conjunction with Dr. Jenner, to lay it before Administration.

Mr. Perceval was Prime Minister; but this business was chiefly managed by Mr. Rose, Treasurer of the Navy, who undertook to bring the proposition before Parliament. Accordingly, in the House of Commons, on the 9th of June 1808, he caused the various votes which had passed on the Vaccine to be read; and then moved as a resolution, with a suitable preamble,

" That this House is of opinion, that great public " benefit would be derived from the establish- " ment of a central institution in London, for the " purpose of rendering vaccine inoculation ge- " nerally beneficial to His Majesty's subjects, to " be superintended by a certain number of the " Royal College of Physicians and of the Royal " College of Surgeons in London, and by such " persons under their direction as they shall " think fit."

Mr. Rose supported this motion chiefly by the following reasons. He observed " that " the Jennerian Society was in a declining state, " and quite inadequate for the extension or " support of the Vaccine. The public at large " were, therefore, at a great loss for a regular " supply of pure lymph, and that much mis- " chief had arisen from vitiated lymph, and " from the ignorance of inferior medical practi- " tioners. It was therefore an object of serious " importance to place the superintendence of " Vaccination in the hands of the most eminent " professional gentlemen in the kingdom, who " would enlighten the rest, preserve the lymph " in perfection, and diffuse it over the whole " empire." He concluded with remarking, " that the advantages resulting from such an in- " stitution were incalculable, and he conceived " that the expense would not exceed 3000*l.* a " year."

This resolution was applauded by several members, particularly by Lord Henry Petty, who was a lover of seienee; and though engaged in keen hostility to the Cabinet, ardently supported this ministerial seheme. But not so Sir Franeis Burdett, the invariable opponent of men in office, and whose physician was Dr. George Pearson. Whether he afforded any assistance, can only be surmised; but, as demagogues resemble eourtiers in eandor, Sir Francis picked out from the papers on the table of the House some of the charges whieh had been laid against the Vaccine, and omitted their refutation. The proposal in question was only to grant to the poor the means, if they ehose to use them, of preserving their families from the Small Pox. Yet, even a gift, when proffered by Government, was opposed by the idol of the mob; who, by striving to rejeet this boon, augmented his popularity. For, though the sophistry of his speeeh revolted his enlightened hearers; yet it coincided with the prepossessions of his vulgar readers.

"The Vaeeine," he said, "now presented "itself with a different complexion from that "which it had assumed originally. It cannot "be forgotten, that a very short time ago we "were told it was proved, that this system of "Vaccination was almost infallible; and one of "the great advantages of the system was

" stated to be, that the practice was so simple,
" that any old woman in the country might
" with safety vaccinate; but now, unfortunately,
" the business wears a very different aspect; and
" the partisans of the system acknowledge, that
" it is a very nice operation, requiring great
" judgment and skill: the want of which is as-
" signed as the cause of the many failures which
" have occurred. So, we find there is neither
" that simplicity, nor security, which was ori-
" ginally held out to this House, and to the
" country. Now, considering those failures, it
" appears to me very dangerous to be hold-
" ing out any flattering hopes to the public,
" by a vote of this House in favour of that
" which appears to be a failing experiment: we
" ought to be cautious, lest we fall into a perni-
" cious error. Government have not the power
" in this, as in other countries, to compel people
" to submit either to prescriptions of physicians,
" or to operations of surgeons, or to any thing
" else except the laws; and I doubt much whe-
" ther any science is likely to be much benefited
" by being placed under the care of Govern-
" ment. As to this particular subject, there
" have been so many instances of failures, that
" the utility of the system may, perhaps, be
" doubted; for we may set down the number of
" failures to be double that which we have heard
" of. This may be the more suspected, from a

" spurious complaint being mentioned, which I " do not understand. It appears to me a mere " shift, a mere get-off; because that is, or is not, " a disease; and there is no other criterion, but " that of a disease following, or not following " Vaccination, by which we can judge of Vac- " cination. As to the College of Physicians, " they have given no opinion upon the matter: " they have only reported the result of that evi- " dence which was laid before them. Now, as " to an opinion upon evidence, there needs no " application to physicians for that purpose; " this House is, I hope, as able to judge of evi- " dence, as they are. For all these reasons I " should very much prefer a Committee of In- " quiry to any legislative measure whatever; " and I should hope this resolution would not " at this moment be pressed."

Mr. Wilberforce pleaded warmly, as he was wont, for the cause of benevolence; and Mr. Rose, in reply to the assertion, that the College of Physicians of London had given no opinion, read extracts from their Report, in which that College, and those of Edinburgh and Dublin, all expressed their decided approbation of Vaccination. Notwithstanding this, Sir Francis Burdett persisted in dividing the House; and it appeared that there were four other members of his opinion. From this division, some notion

may be formed of the proportion of gentlemen who were inimical to Vaccination.

After the above vote passed in Parliament, a communication was made to the College of Physicians by Lord Hawkesbury, the Secretary of State for the Home Department; and by the King's authority, the National Vaccine Establishment was instituted. The Board, composed of the President and Censors of the College of Physicians, and the Master and Governors of the College of Surgeons in London, assembled Dec. 28, 1808, and proceeded to business. Dr. Jenner was first elected Director; and as he resided in the country, by his recommendation, the author of this work was chosen Assistant Director. But an unfortunate misunderstanding arose between Dr. Jenner and the Board, which I in vain strove to compose. In consequence of which, Dr. Jenner declined the office of Director, and I was nominated in his stead. The duty of the Director was to superintend the practice, and to undertake the correspondence, and drawing up of papers upon all important points. Seven surgeons were appointed, and as many stations established throughout London for vaccinating all who should apply, and for collecting and distributing vaccine lymph to those who wished for it; and subsequently the number of these stations was increased. A body

of instructions was next drawn up by the Director, who consulted Dr. Jenner upon this important point. This was reviewed and published by the Board; and, being sanctioned by such authority, was generally considered as the standard of practice. From an arrangement made with Government, all correspondence with the Board on the business of Vaccination was exonerated from the expense of postage, which was of great importance; and medical men in every part of the kingdom, when in want of vaccine lymph, had only to write to the Establishment; and they usually received a supply by return of post. Peculiar events in practice, such as doubtful cases, suspected and real failures, and other contingencies, were frequently referred to the Establishment; and the answers which were sent, explaining satisfactorily most of those cases, tended greatly to allay prejudices, and to justify the Vaccine. At first the applicants for Vaccination at the various stations were not numerous, not amounting to 3000 in the year; but by continued exertions, and the declension of prejudice, the numbers regularly increased; and in the year 1816, 7771 persons were vaccinated in London by this Establishment alone, and 44,376 charges of vaccine lymph were distributed to the public.

The spreading influence of this institution

was extended not only to every part of the British dominions, but also to foreign countries. Great numbers of medical gentlemen applied to be enrolled as corresponding members; and a few honorary members, who were not professional, were also appointed. By all these persons great numbers were vaccinated; and each formed a point whence the Vaccine verged around his vicinage.

The Board drew up an annual Report for the Secretary of State, which was laid before the House of Commons. This contained a statement of the business effected, of the progress of Vaccination, and of such occurrences as were useful or remarkable. These Reports were printed by order of the House of Commons, and widely distributed.

From this time, all open opposition to Vaccination by regular practitioners greatly declined; and Small Pox inoculation was considered as the most deleterious species of empiricism. There remain, however, enough of inferior practitioners, who, despairing of rising to a respectable line of practice, accommodate themselves to the prejudices of the vulgar, encourage them, and covet the gains to be acquired by preserving afloat the variolous infection. These men continue to spread the Small Pox, and to raise perpetual rumours of the evils excited by the Vaccine.

The ignorance of a large portion of mankind renders this opposition by no means contemptible; as the advance of an improvement cannot be very rapid, when all the veteran bands of Prejudice are artfully arrayed by Interest for a stubborn resistance.

CHAP. XI.

THE VACCINE IS EXTENDED THROUGH THE BRITISH DOMINIONS: SCOTLAND, IRELAND, THE EAST AND WEST INDIES.

Those who are best acquainted with the springs of human actions, will not be surprised, that Vaccination met with less resistance at a distance, than on the spot where it was invented. It was received with heart-felt joy in Scotland. The Professors of Edinburgh, in conformity with the brilliant reputation which the University has long maintained as a medical school, were impatient to investigate the properties of the newly-discovered lymph, which they soon procured from Dr. Jenner. Experiments were made, the preventive power was proved, and Vaccination established. The University of Glasgow, which now rivals that of Edinburgh in medical science, acted with equal zeal; and by the influence of these learned bodies, together with its intrinsic value, the Vaccine was in two years spread over Scotland. After a time, however, one croaking voice was raised to disturb the general concord. Mr. Brown, who was fretting in obscurity at Musselburgh,

published a book *, to maintain that the Vaccine only possessed the property of preventing the Small Pox temporarily: that in three years its influence declined; and in five or six hardly any security against the Small Pox remained. These positions were attempted to be proved by much irrelative matter, and by a number of averred cases. But the latter were soon examined by some of the Surgeons of the College of Edinburgh, who published a flat contradiction of the facts. This was a decisive blow in Scotland; on which he filled the London newspapers with his alarming lucubrations, until the editors grew tired of printing them. In this extremity, he wrote to the Secretary of State a scurrilous accusation of the National Vaccine Establishment; which was referred to their Board. When they met, the Registrar read it, and then tied it up with red tape among that mass of papers which are consigned to rest. The adoption of Vaccination, and relinquishment of variolous inoculation, in Scotland, had the effect of diminishing greatly the mortality by Small Pox; but it was found impossible to induce all to employ the preventive; for apathy respecting distant evils prevails among the commonalty over the world.

Ireland being separated by the sea, was rather

* An Inquiry into the anti-variolous Power of Vaccination. By Thomas Brown, Surgeon, Musselburgh. 1809.

later in receiving the Vaccine; yet the practice commenced at Dublin in March 1800; and being attended with success, was warmly espoused by the medical colleges of that city. It was retarded at first by a circumstance which ultimately tended to its advancement. Variolous inoculation was formerly patronized in Ireland by the Popish Clergy, and had, therefore, been much more generally adopted by the common people, than in any other country. The degree of security which this afforded, rendered many unwilling to try a new plan; but the medical profession gradually became sensible of the superiority of Vaccination; they convinced the priests, who employed their influence to substitute vaccine lymph for variolous pus.

In 1804 a vaccine institution was established at Dublin under the patronage of the Lord Lieutenant; whence lymph was diffused over all Ireland, and variolous inoculation was in a great measure discontinued.

It is painful to be obliged to acknowledge that the Vaccine, though early introduced into Jamaica and the West Indies, was long much neglected in those colonies. It reached Jamaica in January 1801; and, by the exertions of a few surgeons, a considerable number of negroes were quickly vaccinated; yet, notwithstanding this successful commencement, the infection was soon lost; and those who wished

to employ it were constrained to send repeatedly to England for lymph. Similar remissness occurred in several of the other islands, which was quite unexpected. For, in Europe, inertness occurred chiefly among the lower orders; but in these islands the labourers are slaves, whose inclinations are out of the question.

The year 1806 was distinguished by an event of momentous concern to the numerous nations who inhabit the extensive districts of Guinea; and to an immense multitude of slaves, originating there, who are now spread over the continent and islands of America. At the beginning of that year Mr. Pitt died; and his colleagues immediately retired from office, yielding up the government of the country to Mr. Fox. Soon after he had formed his administration, although he was embarrassed with the threatening condition of public affairs, and in a declining state of health, yet he introduced the memorable Bill into Parliament for the abolition of the Slave Trade. This measure, which for eighteen years had been successfully resisted, being now supported by the whole power of Government, was easily carried through the House of Commons. But in the month of September, before this Act could be passed into a law, Mr. Fox closed his life. The Bill was, however, vigorously pushed through the House

of Peers by the Lords Grenville and Grey; who became the leaders of Administration: but in every stage it was pertinaciously and virulently opposed. And, even after the Bill had passed both Houses, as it was known that the ministry were about to be dissolved, a fear was entertained to the last of a negative being interposed. But this apprehension proved groundless; for, on the 25th of March 1807, a commission having previously been obtained for that purpose, the royal assent was pronounced by Lord Erskine, the Chancellor; after which ceremony, the seals of the respective offices were all surrendered to the Crown. Thus the Grenville administration was concluded by the ratification of a law which had long been earnestly solicited by the friends of humanity, and vehemently urged forward by the lovers of liberty. It might have been expected that this measure would have awakened the attention of the West India proprietors to the Vaccine, in order to preserve that portion of their slaves which were annually swept off by the Small Pox. But human reason can rarely predict human conduct: for, whether it proceeded from interest being a weaker motive than paternal love, or from the planters expecting a supply by the smuggling trade; the Vaccine undoubtedly made slow progress in these countries. At last, in the year 1814, the government of Jamaica

took up the business with some energy, and established a Vaccine Institution, for preserving and distributing the invaluable lymph. Should the other West India islands, prompted by mixed motives of humanity and interest, adopt a similar plan, and extend Vaccination to the whole negro population, the Small Pox must cease in those countries.

The ignorance of sure methods of preserving vaccine lymph in hot climates for any considerable time, occasioned many failures in transmitting it to India by sea; but this was at length effected by land, through successive stages. So early as the year 1799, Dr. Jenner sent vaccine lymph to Hanover, and nearly at the same time it was conveyed to Vienna; where, by the patronage of Dr. De Carro, the Vaccine was propagated extensively through the Austrian dominions. Towards the latter end of 1800 *, a packet of lymph from De Carro reached Constantinople, with which the son of Lord Elgin, the British Ambassador, was successfully vaccinated; and a few Turkish parents were induced with difficulty to assent to their children undergoing the same operation. England was

* The Medical and Physical Journal for March 1801, Treatise on the Cow Pox, by John Ring, Surgeon, &c. vol. ii. p. 453, 546, 910, &c. An Account of the Introduction of the Cow Pox into India, by George Keir, M. D.

now enabled infinitely to overpay Turkey, by an improved species of inoculation, for that method which had been thence acquired eighty years before. But in that fine country the human mind, deeply imbued with prejudices, cannot conceive that any thing unknown to their ancestors, and untaught by the Koran, can be advantageous. In spite, therefore, of the exertions of an English physician, the Vaccine was soon lost there; and although he had previously transmitted to Bombay a bit of rag soaked with lymph; this and many other attempts failed. But the zeal of Governor Duncan, who presided in that government, and of Lord Elgin, did not relax by these disappointments. A fresh packet of lymph reached Constantinople from Vienna, and was immediately transmitted by the Ambassador, to Bagdad. This fortunately succeeded in the hands of Dr. Short, physician to the English resident. From Bagdad, it was next conveyed to Bassora; where Vaccination was commenced by Mr. Milne, the surgeon of the British Consul. This gentleman was so unremitting in his exertions to transmit the Vaccine to India, that he sent between thirty and forty parcels of dried lymph to different surgeons by various ships. But failure followed failure; at length, in June 1802, a number of trials being made at Bombay with the last of those parcels, after a few days a vaccine

vesicle appeared to arise on the arm of Anna Dusthall, an East Indian girl. Although the surgeons knew the Vaccine only by description, yet they recognised the genuine disease; and carefully seizing the opportunity of preserving it, they inoculated from this source five other children, who took the infection regularly. All the medical gentlemen of the Presidency witnessed these facts with the utmost satisfaction, and multiplied Vaccinations. The preserving lymph was quickly transmitted by sea to Cannonore, Calicut, and the island of Ceylon *, and thence to Madras † and Bengal.

The cold and negligent reception which the Vaccine met with in the West Indies, was a strange contrast to the ardent and virtuous welcome with which it was hailed in the East. These opposite feelings were not manifested by the negroes and native Indians; but by the British, who have emigrated to these opposite points of the globe. This moral difference may perhaps be attributable to their different occupations. The chief business in the Caribbee Isles is the super-

* An Account of the Introduction, Progress, and Success of Vaccination in Ceylon, by Thomas Christie, M. D.

† Correspondence for the Extermination of Small Pox, by James Anderson, Physician General at Fort St. George, Madras. 1804.

intendence of slaves, whether employed in the labours of the field, or in manufacturing its produce: whereas, in the East Indies, the British are engaged in political, military, and literary pursuits, which expand and elevate the mind.

The empire of India was at that period governed by a statesman, whose genius overthrew the Mahometan government, and rooted up those noxious Gallic weeds, which had been insidiously sown there by the long hands of Napoleon.

Lord Wellesley also quickly perceived the importance of the Vaccine, and supported the medical gentlemen in all their exertions. Being aware that enthusiasm soon declines, and that interest quickens benevolence, he appointed at Calcutta* a surgeon, to be Superintendant-General of vaccine inoculation, and stations were established through all the provinces under the British authority. By this decisive measure, the Vaccine was soon extensively disseminated, and no British professional man raised an obstacle to its progress. Obstructions to these salutary schemes were however raised, and from the same causes which operated in Europe. The poor displayed the same, or greater apathy towards warding off a remote evil; and their

* Report of the State and Progress of Vaccination in Bengal in 1804, by John Shoolbred, Superintendant General of Vaccine Inoculation at Calcutta. 1805.

perverted ignorance rendered them prone to be deceived by the Bramins, who had long been inoculators of the Small Pox. It was customary, when inoculation was performed, to make a slight offering to an idol; which, of course, passed through the hands of the priests. When Vaccination was performed, no similar oblation was presented, and, notwithstanding all worldly pursuits are relinquished by the Bramins, this privation kindled their animosity. They instantly employed a number of artifices, dissimilar to those played off by the English anti-vaccinists, but consonant to Eastern prepossessions. It was boldly asserted by many of that cast, that the Vaccine could answer no good purpose *, because none of the water of the Ganges was mixed with it; and all knew, that, without this addition, even Small Pox inoculation was ineffectual.

Independent of this devout declaration, they propagated a hundred rumours. It was spread abroad, that British surgeons had a thirst for blood, and collected together numbers of children, to take a little from each; and when they had filled a tea-cup, they drank it off; but, so far from the children being thereby preserved from the Small Pox, if proper antidotes were

* Report, &c. by Mr. Shoolbred, p. 10, 12, 16, 23, &c.

not applied, which the Bramins alone were acquainted with, all of them would soon perish, or at least be smitten with a dreadful disease. One other report is noticed of a still more terrific kind. The Vaccine was libelled as containing the seeds of the plague, which would break out in three or four years; and was a contrivance of the English to exterminate the native Indians. This annunciation was said to have gained great credit amongst the people, in consequence of a persuasive question, with which it was supported. Why, it was asked, would Government take so much trouble, without having an object in view? The Governor General confuted this interrogative argument by a measure more prevalent than the most apt reply, which fully convinced the Bramins of the virtuous designs of the British Government. Parsimony, where a great object was in view, was never laid to the charge of Lord Wellesley. On this occasion a number of the principal Indian inoculators were sent for to Calcutta, and an inquiry was made of the amount of their gains by their practice. This proved to be a mere pittance; on which double the sum was proffered them*, with the slight stipula-

* Report by Mr. Shoolbred, p. 39. This Author, from delicacy, only hints at the reward, which is stated on undoubted private information.

tion, that they should adopt and recommend Vaccination, in preference to variolous inoculation.

All readily acceded to the conditions, and in consequence attended regularly the office of the Superintendant General of Vaccination, to witness and to be instructed in the process. They were also permitted to vaccinate, as soon as they appeared competent. This incitement induced other native inoculators to appear unsolicited at the same office, and to profess their willingness, upon similar terms, likewise to propagate the vaccine, instead of the variolous inoculation. These voluntary applications were received with proper encouragement: all who chose were taught, and trials were made in their presence, which evinced the preventive power of the Vaccine. A declaration was then drawn up, expressing the facts which had been seen, and recommending Vaccination to all ranks of Hindoos. This was signed by twenty-six Indian inoculators, published in the Calcutta Gazette, in four Eastern languages, and diffused through the whole Peninsula. After this the Vaccine was rapidly extended as far as Persia.

Few countries appear to have suffered more from the Small Pox, than the island of Ceylon. A respectable writer declares, the terror of

the inhabitants for this pestilence was so great *, that, when it appeared, husbands were wont to forsake their wives, and parents their children, leaving them only a little drink and food. When villages were thus abandoned, wild hogs, bears, panthers, and elephants, often issued from the woods and jungles; broke down the enclosures, and ravaged the gardens and orchards. Every sweet-smelling flower and esculent herb was rooted up; the plantain and cocoanut trees were levelled with the earth, the cottages unroofed, and not even the bones of the deserted sick were afterwards to be found. Dr. Christie †, a judicious physician, who resided many years in this island, states that the Small Pox, according to the most moderate calculation, carried off a sixth part of the population; yet no attempt was made by the Dutch Government to lessen this destruction. But in the year 1800, after their possessions on the coast were ceded to Great Britain, Small Pox hospitals were established for the admission of the infected, and of those who chose to be inoculated in all the principal districts. These esta-

* Description of Ceylon, vol. i. p. 253, by the Rev. Mr. Cordiner.

† An Account of the Introduction, Progress, and Success of Vaccination in Ceylon, by Thomas Christie, M. D. 1811.

blishments were superintended by medical officers, and provided, at a considerable expense, with whatever was judged requisite. Yet, in spite of all the attention which was paid, nearly one fourth of the patients who were casually infected, died; and one in thirty-three of the inoculated. This was the state of things in 1802, when Dr. Christie, the superintendant of these establishments, having heard of the virtue of the Vaccine, was most anxious to receive it from Europe, and searched among the cows of the island for this malady in vain. Dr. Jenner, who was strenuous in his efforts for the benefit of mankind, sent out packets of dried lymph repeatedly, both to Ceylon and India; but all failed. He also transmitted coloured drawings of the vaccine vesicle in all its stages. A plan was then concerted by him, under the auspices of Government, for transporting the infection by vaccinating in succession, a number of recruits during their passage by sea to Ceylon. But before this scheme was put in execution, the Vaccine, as was related, had reached Bombay. Dr. Scott, of that settlement, took the opportunity of a vessel sailing to Trincomalie to transmit some threads, well soaked in vaccine lymph, and enclosed in silver tubes, stopped with wax. This was done July 10th, 1802, and the packet having reached Trincomalie on the 11th of August, a surgeon immediately

attempted to vaccinate six children with these threads. One of the six fortunately was infected; and from that child, a succession of others were vaccinated, and the preventive was diffused through the island. The measures that were immediately recommended by Dr. Christie, and put in force by Governor North, were highly judicious. The Small Pox hospitals were suppressed, and variolous inoculation prohibited. The medical superintendants and overseers were ordered to propagate the Vaccine by every means in their power. All persons who presented themselves were vaccinated gratuitously, and the medical overseers made circuits to every village in their respective districts to vaccinate the people. Moderate allowances were granted for these duties; which expense was trifling in comparison with that incurred by the Small Pox hospital establishments. And in order to induce the natives to accede to this scheme, addresses in the various languages of the island were circulated to explain the utility of Vaccination.

These measures were so successful, that the natives flocked in crowds to the stations. Some of the surgeons vaccinated above a hundred in a day: and in two years the Small Pox was suppressed in three of the principal districts of the island. It continued, however,

to prevail for some time longer in the province of Jaffa, where a prepossession had been raised against the Vaccine, from an unfortunate error. Some Cinglese practitioners had produced, by inadvertence, a spurious malady, and had vaccinated many in succession with inefficient matter: several of these persons afterwards caught the Small Pox. The presence and authority of Dr. Christie, however, quieted the alarm produced by these sinister accidents. It was also requisite to overcome some secret opposition raised by those natives who formerly had subsisted by practising variolous inoculation; and besides, it was found, that as soon as the Small Pox was suppressed, the fears of the people vanished, and they neglected to employ the preventive. From these causes Vaccination was not universally adopted; and a few cases of Small Pox were occasionally breaking out in all the districts, the infection being introduced either from the Candian country, or from abroad. The Honourable Thomas Maitland, who succeeded Mr. North as Governor, resolved, in 1807, to finish this business. He issued a conciliating proclamation to persuade the people of the great utility of the Vaccine; fresh orders were sent to the medical and public officers to employ all their influence to prevail upon the inhabitants to adopt Vaccination, and to furnish them with provisions, when necessary, during the

process; and able vaccinators, with increased allowances, were sent to the places which required them. At length the Bramins submitted to Vaccination, who were the last persons to adopt this innovation of their ancient customs; and the remains of the Small Pox were happily extinguished in all that part of the island which then belonged to Great Britain.

It is superfluous to detail the transactions at the Cape of Good Hope, and the Mauritius: in which settlements, Sir John Cradock and Governor Farquhar, by similar measures, and with less difficulty, completely rooted out the Small Pox. These facts are decisive proofs of the reasonableness of the expectations which Dr. Jenner had formed from his discovery.

CHAP. XII.

THE DIFFUSION OF THE VACCINE TO FOREIGN NATIONS: TO GERMANY, PRUSSIA, RUSSIA, SWEDEN, DENMARK, FRANCE, SWITZERLAND, ITALY, SPAIN, NORTH AMERICA, PERSIA, AND AFRICA.

As, at the period when Dr. Jenner published his discovery, the intercourse of England with France and Holland was interrupted by war, GERMANY was the first foreign country to which the Vaccine was conveyed. Parcels of dried lymph were transmitted about the beginning of the year 1800*, to Hanover and to Vienna; but, from philosophic prudence, the Vaccine met at first a cold reception; as most of the physicians distrusted the accounts of this contagious virus possessing the singular virtue which was ascribed to it. Sufficient respect was however paid to the testimonies from England to institute trials of some lymph transmitted by Dr. Jenner: but an embarrassment was occasioned by another parcel procured from the corrupted

* Medical and Physical Journal for the years 1800, 1801, 1802. Treatise on the Cow Pox, by John Ring, Surgeon.

source at the London Small Pox Hospital, which excited eruptions. But this being remarked, the error was corrected, eruptive cases no longer occurred on the continent, and success removed all doubts of the utility of the discovery. It was under the auspices of the court physician and surgeon at Hanover that Vaccination commenced, who published the prosperous results: and the progress in Vienna was greatly accelerated by a disastrous epidemical Small Pox, which prevailed at that period. The dread of this disease greatly assisted Professor De Carro's exhortations to have recourse to the Vaccine, and the practice was extended widely.

In Prussia the clergy united their efforts with those of the medical profession to diffuse this benign preventive. But notwithstanding the sedate character of the Germans, some slight medical opposition arose.

A Dr. Ehram *, of Frankfort, wrote against it; but both the composition of his work, and the act of suicide which he committed soon after, were strong presumptions of his insanity. A second work, something more sane, emanated from the pen of Dr. Hertz †, a Jew physician at

* Practical Journal, by Hufeland, vol. xii.

† Dr Marcus Hertz to Dr. Dohmeyer, on the Brutal Inoculation, &c. 1801.

Berlin; who stigmatized the brutal inoculation from cows, and expressed an obdurate disbelief of all the facts written in the new books of the Christians, and a rooted antipathy to their doctrine. He concluded by prophesying temporal evils to all who forsook the ancient rites of their forefathers: which prediction was in two cases oraculously fulfilled.

A banker at Berlin requested Dr. Wolf, another Jew physician, who is said to have been the friend of Hertz, to vaccinate two of his children. Wolf pretended to comply with his request, but clandestinely substituted variolous pus for vaccine lymph: in consequence of which, both the children died of the Small Pox. The criminal prosecution which succeeded was probably of more advantage to the Vaccine, than De Carro's * refutation of Hertz's sophisms; and as the King of Prussia soon after directed his children to be vaccinated, this had more effect than either. He also issued orders that Vaccination should be immediately employed in the army, and the new practice encountered no further difficulties. By which, and by the total abandonment of variolous inoculation throughout Germany, the Small

* Observations on Vaccine Inoculation, &c. by Dr. De Carro of Vienna, in the Medical and Physical Journal, vol, viii. 1802.

Pox rapidly declined; and in a few years was extinguished in some of the largest cities, from whose purlieus, infectious diseases are expelled with great difficulty. Thus even in Vienna, where full four hundred persons had annually been destroyed by the Small Pox, this mortality diminished rapidly after the introduction of the Vaccine, and in five years absolutely ceased.

The medical profession were anticipated in Russia, by the superior zeal of the Dowager Empress. This Princess, not possessing the feminine ambition of modern times, had never advanced as the glittering leader of modes and festivities, but had retrograded to the more austere virtues of the past ages. Her unostentatious excellence was not appreciated by Paul the Emperor, who treated her with caprice and harshness, to which her gentle spirit yielded submissively.

But the nation were not tractable under a series of vexatious and frantic acts; a conspiracy was formed by some of the nobles, who entered the palace at midnight, and strangled the Emperor. The Empress, who slept in a separate apartment, was awakened by the tumult: she rushed fearlessly into her husband's chamber, then filled with the conspirators; and loudly demanded to see him. They in vain strove to silence her exclamations, and to restrain her efforts. She persevered with en-

treaties, threatenings, and cries, until the conspirators being overawed, submitted; and showed her the lifeless corse. She threw herself upon the body, kissed the lips, and drenched the face with her tears. After pouring out this torrent of grief she rose up majestically, commanded the body to be raised from the ground, and placed on the imperial state bed. And the very men who had assassinated the Emperor, and who were then masters of the empire, yielded her obedience. This order being complied with, she watched the remains of her husband until the funereal rites were performed, according to her directions, with the accustomed solemnity and magnificence. When time, by its slow operation, had assuaged her own affliction, this beneficent Princess devoted the remainder of her life to alleviate the sufferings of others. She pitied, visited, and relieved the sick and the poor: she became the foundress of many charitable institutions, and the patroness of all; inspecting their management, regulating their economy, and correcting their abuses.

The Vaccine was a discovery quite congenial to her feelings; and accounts of it were carried in autumn 1801 to Moscow, where the court were assembled to celebrate the coronation of her son, the Emperor Alexander. His august mother kept aloof from the solemnities, re-

joicings, and redoubled intrigues of a new reign; but sent an urgent request to a physician at Breslaw, to transmit to her without delay vaccine lymph *. This was done, and an infant was successfully vaccinated by the surgeon of the Emperor. The name Vaccinoff, and a provision for life, were conferred upon the child; who was transported directly in an imperial coach to the Foundling Hospital at St. Petersburgh, as a source for future Vaccinations. The happy effects of the new practice being soon perceived, the Dowager Empress, equally generous and humane, wrote a letter to Dr. Jenner, complimenting him with delicacy, and testifying her acknowledgments to the person who had rendered so signal a service to the world. This letter, together with a valuable diamond ring, were transmitted to the discoverer, through the British ambassador.

Vaccination, under such patronage, spread prosperously to the remotest parts of the Russian empire; where population not only constitutes the power of the state, but the wealth of the landholders. It was therefore encouraged, both as a political measure, and as an agricultural improvement. For the Small Pox was a greater drain on Russian estates, than both

* Treatise on the Cow Pox, by Mr. Ring, p. 1009. Medical and Physical Journal for 1802.

the murrain and mildew; and destroyed, as was calculated, one seventh part of the inhabitants. Several imperial Ukases were issued to excite the adoption of Vaccination, and the superintendence of the practice was most judiciously devolved upon Dr. Crichton, chief physician of the court. Surgeons for this duty were appointed by him in every province; from whose reports it appeared that between the years 1804 and 1812, twelve hundred thousand persons had been vaccinated. The decrease of Small Pox having showed clearly to the Emperor the advantages of Vaccination, he gave orders, by a fresh Ukase, that every subject in the empire should be vaccinated. This decree met with little resistance, except from a small sect of fanatics in the eastern part of the empire, whose opposition arose not from their doubts, but from their conviction of the efficacy of the Vaccine. Their prevailing tenet is, that as wounds, diseases, and death are inflicted by Providence, it is an impious profanation to prevent these dispensations by the potent medical arts. These bigots, being insensible to reason, and inflexible even to an Ukase, were permitted to enjoy the exemption which they implored, of being allowed to remain susceptible of the Small Pox.

We now proceed to SWEDEN, where in modern times, in spite of the frigid climate and barren soil, botany flourishes; and which in past ages was warm with the love of liberty and fertile in heroes. The Swedish government has long been peculiarly attentive to the health of the people. In the year 1754, Dr. Schultz was deputed by the States of the kingdom to inquire into the English method of inoculating for the Small Pox. This physician, after a considerable residence in London, presented to the royal commissioners of health *, an excellent account of that practice †, which was immediately established by the authority of Government: and variolous inoculation became one of the most lucrative branches of professional practice. From this watchful solicitude for medical improvements, Vaccination was begun in Sweden, sooner even than in Ireland. For, before the termination of the year 1799, orders were issued by the Government to the College of Health, of

* A permanent board, partly constituted of Privy Counsellors and Nobles.

† An Account of Inoculation presented to the Most Noble Governor of the Princes, &c. &c. by David Schultz, M. D. translated from the Swedish, 1758. Report of the State of Vaccination in Sweden, included in the Report of the National Vaccine Establishment to the House of Commons in 1814.

which Dr. Shultz had become president, to investigate that subject with the greatest accuracy. The report of this learned body fully confirmed the excellency of the Jennerian discovery. And in 1803, a law was enacted, establishing Vaccination throughout the kingdom.

In support of this measure vaccine stations were appointed, and honorary and pecuniary rewards conferred by the Government on the most deserving; while at the same time the prejudices of the people were corrected by the exhortations and example of the clergy; and variolous inoculation, without a dissenting voice, was disinterestedly abandoned by the faculty of medicine. It is superfluous to add, that, by such a concurrence of virtuous exertions, the Small Pox was quickly suppressed in Sweden.

The mortiferous effect of this disease appears, however, to have been no less attended to by the Prince of Denmark; although about the same period a danger more personal impelled him to reject the proffered friendship of Great Britain, and to accept the perfidious amity of Napoleon; by which submission he suffered more than he could have done by a magnanimous resistance. He was then incapable of maintaining a neutrality, from a deficiency of force; but, in aiding a power which was already exorbitant, there was a lack

of wisdom ; and, as is usual, the errors of their Prince brought calamities on the people.

Nelson, with a seaman's arm, struck the first blow. Cathcart was next commissioned ; who bombarded and captured Copenhagen, and brought the Danish navy to the Downs. Even these disasters did not correct the infatuated Danc: till at length the Crown Prince of Sweden, by an invasion of Holstein, conquered Norway, and dissolved the French alliance. It was with regret that these penalties were inflicted on the refractory Danes ; who now, repentant, are protected by the power, and the population of their remaining territories is augmented by the science of England. In the year 1805 * not a single child died of the Small Pox at Copenhagen.

The sanguinary war which raged between France and Great Britain, retarded the entrance of the Vaccine into the former country. But in the spring of the year 1800, hostilities having been suspended, previous to the peace of Amiens, an application for vaccine lymph was made by the Director of the School of Medicine at Paris. A packet was immediately transmitted ; which, from an excess of precaution, was inclosed in a phial filled with hydrogen gas.

* Pfaff im neuen Nord. v. Archiv, B. 1.

Presently an official bulletin, in the jargon of the day, was promulgated by the National Gazette*. (June 12, 1800.) "23 Prairial, 8th year "of the French Republic, One and Indivisible. "Upon the inoculation of the Vaccine." After this preamble it was stated, that Vaccination had been performed on thirty children, nine of whom had taken the infection; and that the operation had been repeated with recent lymph on a number of those who had not been infected by the dried lymph. Notwithstanding this lively commencement, the lymph was soon lost by mismanagement. But Dr. Woodville, having little to lose in England, set out for France on a vaccine adventure. He began to operate at Boulogne, and from that stock continued the practice at Paris. On his arrival, Woodville, who was a solemn taciturn Englishman, was overwhelmed with the adulatory phrases which the French lavish upon those strangers whom they wish to please. Crowds of professional and literary persons waited upon him, soliciting the high honour of his friendship; he was very courteously pressed to vaccinate in public gratuitously, and a house was hired for that purpose. A

* The Medical and Physical Journal, for July, September, and November, 1800. Treatise on the Cow Pox, by J. Ring, Surgeon.

second bulletin next proclaimed the happy event, "of France having now got Dr. Woodville, a "learned man, animated with generous zeal, "and meriting gratitude and praise. Already he "had vaccinated six thousand children with in-"variable success; for the prevention of the "Small Pox is a kind of prodigy." But neither advertisements nor hand-bills were needed by this vivacious nation: the news of this visitation of an English physician flew from mouth to mouth; for, though Rumour in France has fewer ears, she has more tongues, than in any other country. Men ran in haste to the vaccine station, and bared their arms for the lancet; while maids, and mothers with swarms of children, followed, expecting that preference which is there always paid to the sex. Notwithstanding all the surpassing civilities shown to Woodville, he was not bribed to make a long stay; and he returned, not enriched, while the empty compliments were ringing in his ears.

At this time the First Consul was pushing forward the negotiations for the peace of Amiens, to confirm his family on the throne of France; and the medical cajolements continued. An address was presented to the British Ambassador*,

* This curious morsel was preserved by Francis Moore, Esq. Secretary to the Ambassador, and sent to Dr. Jenner.

couched in that republican gibberish, which the First Consul had not then silenced.

" LIBERTY. EQUALITY.

" Amiens, Frimaire 29th, tenth Year of the Republic.
(16th October 1801.)

" From the Members of the Jury of Health,
" and the Medical Committee of the Depart-
" ment of the Somme, to His Excellency the
" Minister Plenipotentiary of England for the
" Congress at Amiens."

It was stated, " that the Jury were con-
" stantly occupied with whatever related to
" the preservation of man, and consequently
" their attention was peculiarly excited by the
" Vaccine. Many trials had been made by
" them, and the discovery, unfolded in England,
" had been stamped in France with the seal of
" infallibility." The immortal Jenner was then eulogised, and the detractors of Vaccination stigmatized, and accused of forging a hundred falsehoods. These opponents, although some of them are physicians, are declared to be unworthy of the honour of a refutation, as they have been stimulated neither by the love of truth, nor by the glory of physic, but by avarice. The address concludes by compliments to the Ambassador, and assurances that the French physicians consider themselves as the brothers

of those of England. This exquisite composition was signed by all the members, and pompously presented to the Marquis Cornwallis. Thus the negotiations for peace, and the commencement of Vaccination in France, were simultaneous, but their duration was very different. The Vaccine continued to be fostered from the innate love of life; but the peace was quickly broken from the superior passion for war. Although the Vaccine was applauded by every school of medicine of France, in lofty indigenous phrases; yet the idea of annihilating a lucrative disease was not universally pleasing to the faculty. There issued from that community more murmurings, calumnies, and falsehoods, than were sufficient to prevent the French physicians setting up a claim of superior disinterestedness to the English. Nor was there at first any direct check given to this opposition by Buonaparte, who still indulged the people with a slight semblance of freedom: besides, the support given to the Vaccine was more ostentatious than costly. The original vaccine station at Paris was founded by Citizen La Rochefoucault Liancourt*; and a committee

* Recueil Périodique de la Société Medicale à Paris. 1801. Les Essais et les Histoires de l'Introduction de la Vaccine en France. Par les Docteurs Colon, Moreux, et Fournier, &c.

of ardent medical citizens were appointed to superintend the practice. But this establishment was at first supported by voluntary subscriptions alone; a species of funds peculiarly precarious in France. For, though several of the princes and ministers placed their names at the head of the list, yet, notwithstanding this example, the subscribers in ten years only amounted to 110 persons *. Among the favourers of Vaccination was Lucien Buonaparte, Minister of the Interior, who, after having consulted the School of Medicine, adopted some measures for diffusing the Vaccine through France. The Prefect of the department of the Seine also declared himself the friend of the new practice, and established a vaccine hospital, where a medical committee transacted business. But these efforts were secretly undermined, variolous inoculation was practised, and the Small Pox cherished: some practitioners considering it as their lawful, inalienable inheritance. In the year 1802 they reaped a plentiful harvest; for that disease raged through France, destroying a vast number of people. This devastation had probably little influence on the lower orders, but it called forth the energies of Government. Buona-

* Collection des Bulletins sur la Vaccine, publiés par le Comité Central établi près de Son Exc. le Ministre de l'Intérieur. A Paris, de l'Imp. Royale. 1814.

parte's schemes demanded an unbounded population, and he was not of a temper to permit individuals, for their emolument, to lessen his military resources.

Accordingly, in 1803, a Report containing decisive proofs of the utility of Vaccination was presented to him by the medical committee. On which Mr. Chaptal, then Minister of the Interior, was commanded to employ the power and authority of Government to extend the practice. In the spring of 1804 he founded a society of the public functionaries united with men of letters and physicians, under the title of The Central Committee of the Vaccine, and instructions were given to institute similar committees in every department. Vehement reports were then circulated by the various medical committees; the Moniteur and other public papers resounded with the sentiments of Government, urging the nation strenuously to employ Vaccination; and the magistrates and the clergy became immediately active in this great object *. By these measures all opposition was soon quashed; for the shadow of repub-

* Biblioth. Britanniq. des Sciences et des Arts, tom. ix. Mém. de l'Instit. Nation. &c. Sciences Mathem. et Phys. tom. v. Résultats de l'Inoculation de la Vaccine, par le Citoyen Valentin Nancy. 1810.

licanism had then vanished, and none durst oppose the declared will of their despot. Even the Small Pox felt his power: it gradually declined throughout France; and in 1809 the deaths by that malady at Paris had sunk to 213 in the year. Napoleon was, however, dissatisfied at so slow a progress. He wanted men, and knew that to preserve them at a trifling expense was economy; he therefore resolved to put an end to that difficulty which impeded the completion of his work. And, on the 10th of May 1810, there issued from the office of the Minister of the Interior a fulminating Report from the Central Committee. The republican phraseology had been superseded by another, equally remote from simplicity, but conformable to Imperial Gallic pomp. It was signified, that His Majesty the Emperor and King had seen from the various Reports of the Central Committee, that the preservation and increase of his vast empire was immediately connected with the general propagation of the Vaccine. In consequence, His Majesty, wishing to give a signal mark of his paternal solicitude for his subjects, had granted to His Excellency the Minister of the Interior an annual special credit destined to provide for the expenses necessary for extending the new practice, and for forming collections of vaccine lymph in twenty-

four of the principal cities of the empire *. And His Majesty had also, from benevolence, appointed annual prizes, as powerful incentives to an emulation for extending the Vaccine, and to give a general impulse to banish that scourge the Small Pox, from his territories.

It soon became evident, that the voice of reason, the eulogies of learned societies, the exertions of the benevolent, the recommendations of the church and state, and even the commands of an emperor, were less effective, than the judicious application of a little money: for the Small Pox from this period diminished so quickly, that in 1815, when Napoleon had fled from the field of Waterloo, and English and Prussian troops garrisoned Paris, few traces of the Small Pox could be discovered, and not a patient was found in the hospital wards appropriated for that disease †.

In Switzerland the commencement of Vaccination was most inauspicious; for at Geneva twenty children were vaccinated in succession from a source produced by threads imbued with a spurious fluid sent from Vienna. The arms inflamed violently the first day, and fever occur-

* Among these were included Brussels, Florence, Parma, and Turin.

† Sketches of the medical Schools at Paris. By John Cross, Surgeon. London, 1815.

red on the second; from which time the symptoms declined. Although Dr. Odier*, the attending physician, had never seen the Vaccine, he perceived that these effects were dissimilar to Dr. Jenner's description. He therefore prudently wrote an account of the occurrences, and requested from him a supply of pure lymph. Jenner replied, that those children had certainly not been infected with the genuine Vaccine, and therefore continued susceptible of contracting the Small Pox. This opinion was too fatally verified: for three of them, whose parents had absolutely refused to consent to their being re-vaccinated, died of the casual Small Pox.

The citizens of Geneva have long been distinguished for their love of literature; and even the commonalty have a superior education to that of most other cities. Dr. Odier, therefore, after explaining the cause of these disasters, readily induced many of the enlightened inhabitants to assent to make trial of the lymph sent from England. Complete success attended the second experiments; and the faculty of Geneva unanimously approving of the new practice, offered to vaccinate gratui-

* Mémoire sur l'Inoculation de la Vaccine. Par Dr. Odier à Geneva. Bibliothèque Britannique à Geneva. 1800. Un Traité historique et practical sur l'Inoculation de la Vaccine. Par Dr. Moreau. Paris, 1800.

tously all whose circumstances did not enable them to recompense medical attendance. The clergy of that city, who are remarkably exempt from prejudices, undertook to admonish all parents, on presenting their children for baptism, to have them vaccinated also. From Geneva the Vaccine was soon transmitted to Lausanne and Berne; and without enthusiasm, or the cogency of Government, but merely by the judicious and virtuous dispositions of the people, Vaccination was gradually extended through all the Cantons.

In proceeding to Italy, where, after Gothic darkness, letters first revived, some despondency is felt on observing the vicissitudes experienced, even by knowledge. When the barbarians of the North massacred the instructed, consumed the libraries, and dashed to pieces the productions of art, the overthrow of literature was a natural consequence. But when the arts and sciences were established and flourishing, it could not have been apprehended, that without violence, in the midst of schools, academies, and universities, they should decay. Yet such declension occurred in Italy, both after the Augustan and Medicean ages. Still some sparks of genius, the reminiscences of ancient glory, occasionally break out; and the benumbing influence of papal superstition is less observable in Lombardy, than in the more southern states. It

was in the year 1800, that Professor Sacco, of Milan, became the apostle of the Vaccine in Italy. He in truth investigated the subject more fully than any English, German, or French physician; and found that the Vaccine was indigenous among the cows in Lombardy, and in Switzerland. At first he questioned the notion that this malady originated from equine virus; but, in a subsequent publication *, he retracted this objection, and stated, that one of his servants had contracted from a horse ulcers of a singular appearance on his hand; the matter of which he used for inoculation, and produced the true Vaccine, both on cows and children. Strong measures were adopted by the Milanese government for extending the Vaccine; proclamations were read from every pulpit; Vaccination was practised in every church; and the clergy gave such effectual aid, that the Professor and his associates in three years vaccinated 70,000 persons, and extinguished the Small Pox in Lombardy.

Philosophical innovations are seldom relished at Rome; and it was impossible that the Vaccine could be attended to there, when groaning under the insulting lash of France. Rome,

* Trattato di Vaccinazioni, con Observazioni sul Giavardo e Vajuolo Pecorino del Dottore Luigi Sacco, &c. Milano, 1809.

degenerated Rome, had neither dared to offend, nor ventured to resist, yet was seized by a French detachment. The unresisting Pontiff was thrown into prison; cardinals, nobles, and merchants, were plundered; and the people were forced into the service of their enemies. From museums every curious rarity of nature was snatched away; and palaces and churches were stript of every transcendent work, and fragment of art, which was portable. The ancient Romans had often gazed proudly at the spoils of conquered nations proceeding in triumphal procession to the capitol; and their descendants have seen with oblique eyes long trains of wagons loaded with their silver, gold, jewels, vases, pictures, and statues, moving along the Flaminian way to be transported over the Alps, to adorn the palace of their master. At a time when the courtesy of civilized nations towards the vanquished was disregarded by the spoiler; and when Rome, Florence, and Naples were enduring this last mortification, the evils from the Small Pox were little thought of. But Sicily was preserved from similar rapine, and acquired the Vaccine, through the intervention of the sea.

In the year 1800, when a British fleet and army were counteracting in the Mediterranean the boundless ambition of France, two eccentric doctors set out thither upon a vaccine adventure. Joseph Marshall and John Walker had, it is said, procured medical diplomas from

the indulgent university of Leyden; and, being low in fame and pocket, made application to Dr. Jenner, and obtained his sanction for a very useful project. By an application to the Admiralty, he got them a passage in a frigate, and they proceeded to Gibraltar, Minorca, and Malta, teaching and practising Vaccination: a more excellent work has rarely been performed by humbler instruments! Marshall, however, was not deficient in address; and as Lord Keith, the Admiral, had learned from home the good effects of the Vaccine, he permitted a trial to be made. It may be easily conceived that this proposal was at first little relished by seamen, a class of men peculiarly inconsiderate of futurity. But as Walker, one of the travelling preachers, had a strange appearance, uncouth manners, homely language, and unintelligible arguments, he made many converts in the fleet. The land forces were then commanded by Sir Ralph Abercrombie, who was steering his glorious, but untraced course, to Alexandria. His strong sense led him to encourage Vaccination, which extinguished the Small Pox in that gallant army; too small to admit of diminution, when advancing to expel the French, who, with superior numbers, occupied Egypt.

In the spring of the year 1801, Dr. Marshall appeared at Palermo, which had become the constrained residence of the person who was then only titular sovereign of Naples, and

he instructed the court physician and surgeon in the practice of Vaccination. But they neglected, and soon lost, the lymph; for Æsculapius, together with the Muses, have long fled from Sicily; and since their departure, even Ceres languishes. An insipid listlessness now pervades this island, once renowned for fertility, poetry, and martial ardour. The shepherds no more contend in song; and the cavaleros, forgetful of chivalry, instead of rushing to arms, when menaced with subjection by rapacious enemies, indulged during the heat of the day in drowsy repose; and in the cool of the evening, serenaded with tinkling guitars their inflammable mistresses. Happily for both, a British army arrived to do their work, who drove back the invaders into the sea. And, as a portion of the same energetic spirit animated the medical department, the Vaccine was resuscitated, and spread by the British through Sicily, Malta, and the Ionian Islands, that the fortunate people whom they had rescued from conquest, might also be preserved from the Small Pox.

At the discovery of the Vaccine, SPAIN was governed by one of the three daughters of the illustrious Maria Theresa. In appreciating their characters, the Emperor Joseph was certainly not blinded by fraternal partiality; for he one day remarked, "J'ai trois sœurs: la Reine de "la France est la moins folle, jugez des autres."

They were all married in the pride of youth and beauty to kings; all snatched from their husbands' hands the reins of government, and wantonly drove the chariots of the state; and all became memorable examples of the superior rigour of destiny to those in eminent stations. The Queen of Spain was betrayed and imprisoned by an ally; the Queen of Naples was deposed and banished by her son; and the Queen of France was executed on a scaffold by her subjects. The crafty ally who dethroned a confiding queen was Napoleon; although, to satisfy his augmenting demands, and to purchase his forbearance, she transmitted over the Pyrennees the ingots and jewels wafted from Mexico and Peru, and even braved the navy of England.

During this humiliating vassalage, but before she had been by stratagems enticed into his net, a Latin translation of Jenner's works was sent to Madrid. Several French books on the same subject followed; and the Vaccine was favourably received and encouraged by the Government, beyond what could have been then looked for. Vaccination also was gradually introduced into Cadiz, Seville, Barcelona, and the principal cities of Spain; and an enterprise was at length set on foot for extending the Vaccine, which surpassed all that had been done by the most energetic European sovereigns. The merit is chiefly due to Dr. Francisco Xavier

Balmis, Physician to His Catholic Majesty, a man of learning and talents, who, by persevering solicitations at court, obtained a commission for propagating the Vaccine in the Spanish American and Asiatic domains; and, to defray the expense, he obtained the rare and profitable permission of freighting a ship with a variety of goods, and of trading at every port he touched.

On the 30th of November 1803, he commenced his voyage from Corunna, accompanied by a number of medical gentlemen with subordinate commissions. Two-and-twenty healthy children were taken on board, that the Vaccine might be continued in the most active state by successive vaccinations; and, perhaps, no ship was ever freighted with so precious a cargo. Balmis first pointed his fortunate course to the Canary Islands; where he vaccinated a number of children, and left instructions for perpetuating the practice. He next proceeded to Porto Rico and the Caraccas, leaving at both a preventive for one of those poisons which three centuries before had been carried thither by the Spaniards. At the Caraccas the medical officers divided, for the better accomplishing the object of their mission. Don Francis Salvani was despatched to the south, and was shipwrecked at the mouth of the river de la Magdalena; the children and all aboard, however, got safe ashore, and reached Carthagena. After

establishing Vaccination there, Salvani crossed the isthmus of Panama, carrying the Vaccine to the south-west coast of America, and he diffused it among the interior provinces, and to Lima, Chili, and as far as Charcas. In the mean time, Balmis, the director, sailed to the Havannah, and thence to Yucatan. At this place the medical gentlemen divided again; Professor Francis Pastor proceeded by land to Villahermosa in the province of Tobasco, propagating the Vaccine through the district of Cividad Real de Chiapa, and onwards to Guatimala. While Balmis sailed to Vera Cruz, then traversed the Vice-royalty of New Spain, and the Interior Provinces, and returned to Mexico, the point of reunion with Professor Pastor. During the whole of these extended peregrinations, the Vaccine was planted in every province; councils were instituted in the capital cities; professional men were charged with the preservation of the sacred deposit, and made responsible to the king. The director next prepared to convey the blessed lymph to the Spanish possessions in Asia. For which purpose he crossed the continent, and travelled to Acapulco on the western shore of America. He then embarked with six-and-twenty children, to secure by successive Vaccinations, the preservation of the lymph in a voyage across the Pacific Ocean. His arrival at the Philippine Isles was hailed with transports,

and the captain-general gave every assistance in his power to extend the Vaccine to the furthest coast of Asia. The Archipelago of the Visayan islands was then at war with Spain; but Balmis was a true disciple of Hippocrates, and in distributing the Vaccine, as in every other exertion of his medical functions, he considered the enemies and friends of his country, equally as men. Having at length reached the extremity of that empire in which it is boasted the sun never sets, he shaped his course to Macao; and established the Vaccine both there and at Canton.

In returning to Europe, Balmis touched at St. Helena; where, to his great surprise, he learned that the Vaccine had been positively rejected by the English settlers. But this Spanish physician, by relating his success, overcame their prejudices against the discovery made by their own countryman, and then returned to Spain.

Two years were nobly spent by this excellent man, in putting a vaccine girdle round the globe; and it is an additional pleasure to have learnt, that, by trading during his circumnavigation, he acquired an easy fortune. He now enjoys at Madrid the distinction he has merited, and patronises the diffusion of Vaccination through the Peninsula.

The freedom that reigns in the United States of North America, is incompatible with unani-

mity; consequently, the Vaccine had to struggle there with a long and violent opposition, which was not much allayed by the exertions of the President Mr. Jefferson, who patronised the new practice: yet by degrees it spread, and was introduced even among the Indian tribes. It was in the year 1799, that this important benefit was conveyed to the United States from Great Britain. Indeed, except the produce of the soil, what that is valuable, has that nation not received from this? Certainly their arts, literature, laws, religion, the model of their political establishments, and even their love of liberty. Yet, when Britain was hard pressed by Napoleon, who by furious and successful enterprise had forced the European nations into a league against her, the United States submitted to the threats and depredations of the tyrant, and joined their forces to enslave their parent country, the restorer and last shelter of liberty in Europe. American diplomatists have exerted much political subtlety to apologise for combining in this miscreated scheme, which would have been scorned and opposed by the virtuous Washington.

But let England forget this, and rejoice in being able to add the Vaccine to the other benefits conferred upon the Americans. And may our physicians continue to instruct them to cure and prevent the diseases of their country; may our poets soften and delight them; and,

above all, may our philosophers improve their dispositions; and perhaps in a future age, their animosity will cease, and there will spring up in that country some filial gratitude.

Although commerce was the natural vehicle for the transmission of the Vaccine to distant countries, yet it was carried otherwise to PERSIA, an inland kingdom, hardly accessible to the trade of England. The opportunity of effecting this, proceeded from the most chimerical of all Napoleon's projects. It had floated in his brain, that, after the expected conquest of Russia, he could march an army in the steps of Alexander, through Persia to the Indus, and subjugate the whole of Hindostan. In preparation for this intent, and previous to his march to Moscow, intriguing emissaries were despatched to delude the Persian monarch. But to discover to him his danger, and to inspirit him to oppose the passage of a French army, Sir Gore Ouseley was sent in the character of a British Ambassador. The National Vaccine Establishment seized this occasion of transmitting vaccine lymph to Persia, with full instructions in the method of employing it *. And the Ambassador, soon after his arrival, despatched letters, signifying that the sons and daughters

* Report of the National Vaccine Establishment to Parliament for 1814.

of the Prince Royal, and upwards of fourteen hundred Persians, had been vaccinated, and that the practice was augmenting in Tehran, the capital of the kingdom.

Africa remains, and probably must long remain, in a great measure deprived of the preventive of Small Pox. The settlers at the Cape of Good Hope, and at Sierra Leone, are indeed happily regulated and protected by British laws and sciences. But the natives of this unbroken continent still continue either in a wild state of lawless ferocity, or enslaved and hardened by barbarous despotism. Thence their uncultured, undeveloped mental faculties, are only a little superior to those of the animals which range the deserts.

CHAP. XIII.

THE PRACTICE OF VACCINATION, AND THE CONCLUSION.

The facility of performing Vaccination, and the usual exemption from mischance, are apt to encourage neglect. But no surgeon, however hurried with business, ought to forget, that an oversight, apparently trivial, may possibly cost his patient his sight or life. Let all, therefore, rather err in excess of innocent precautions, than in the slightest omission.

The instructions of the National Vaccine Establishment of London were founded upon the experience of many, and improved by successive observations: they were drawn up after much consideration; and precautions inculcated, respecting those incidents which were remarked to precede failures. The success of these precepts is the reason for comprehending them in the practice about to be recommended.

The first consideration is, the time to be chosen for Vaccination. The exquisite irritability of a new-born infant, and the uncertainty of its organization being perfect, are sufficient

motives for usually deferring the operation until three weeks after birth. If the infant is then in health, the sooner it is performed the better. The presence of an acute or dangerous disease is obviously a strong objection to vaccinating: but slight complaints without fever, transient irregularities of the bowels, and fits of fretfulness from indigestion, or teething, form no obstacle to the operation. Children affected with the crusta lactea and herpetic eruptions sometimes cannot be infected with the Vaccine: and when they are, the infection has been suspected sometimes to proceed irregularly. Yet the trial may be made, for the operation never augments these eruptions; and should it fail, it ought to be repeated after the eruptions are cured. But when the Small Pox infection is at hand, this superlative danger overwhelms all other considerations; and every human being susceptible of the poison, without exception, should instantly be vaccinated. No scruples respecting infancy, old age, or diseases, should induce us to delay for a moment: for nothing can be put in competition with the risk of the variolous infection. So mild indeed is the Vaccine, that it does not perceptibly augment the peril of other diseases. For instances have occurred, in which, during the progress of the Vaccine, the Scarlet Fever or Measles have broken out; which proceeded with the usual

symptoms; only the vaccine vesicles inflamed more, and became purulent; the skin being stimulated by two morbid poisons at once. And when the Small Pox breaks out during the Vaccine, the variolous disease is generally mitigated.

Lymph for Vaccination should only be taken from a vesicle perfectly regular; which is to be distinguished by the following description. A small red spot is formed, sometimes on the second, but oftener on the third day after Vaccination. It is slightly elevated, and, if examined with a lens, a red efflorescence is perceived. This little tumour enlarges, and on or before the sixth day a small vesicle is formed, whose regularly rounded edge is elevated, and the centre slightly depressed. It is at first of a pink colour, which changes to a pearly tint, slightly tinged with blue, the centre being rather darker than the surrounding parts. The vesicle is hard to the touch, and cellular; the cells are filled with transparent lymph. On the seventh, eighth, or ninth day, the base appears surrounded with an inflamed ring, which spreads rapidly, and in one or two days becomes a florid areola of an inch, an inch and a half, or more, in diameter.

The vesicle is then at the height; the areola is hard and tumefied, and continues for one, two, three, or four days: as it fades, it often forms one or two concentric circles. When the

vesiele deelines, the centre first darkens, and the whole gradually changes into a hard smooth crust of a dark mahogany colour. This crust drops off spontaneously in the course of the third week, leaving a superficial cicatrix slightly indented by the cells of the vesiele. The commencement of the vesicle is seldom earlier, but often later, than has been described. The virus has sometimes lain inactive for one or two weeks; but if the subsequent stages are consonant to the above description, the vesiele is to be considered regular.

The inflammation of the Vaccine is phlegmonous, acute, and of the genus named by John Hunter, the adhesive inflammation; and, when regular, never passes into the suppurative stage.

The secretion which takes place is a transparent liquid, and a small quantity of coagulable exudation. By the latter, the centre of the vesicle, where the original puncture was made, adheres to the cutis underneath: and the interior cellular structure of the vesiele is formed by the same medium. After the vesicle is encircled by its areola, the lymph acquires a muddy serous colour, without deviating into purulency, and gradually thickens and desiccates.

It is usually found that the lymph is less infectious after the formation of the areola, than before: but many trials have proved, that the

regular Vaceine may be excited by the secretion of any period, provided the vesicle had neither been opened, nor its aetions disturbed: and the same effect may be produced even by a vaccine crust dissolved in water. Therefore, while the vesicle is uninjured and proeeeds in its due course, the lymph eertainly preserves its speeifie quality; but should it be irritated, and any undue inflammation excited, rendering the secretion purulent, this is to be eonsidered as vitiated and unfit for use.

If surgeons could find a eonstant suecession of subjeets, pure lymph in its early and most active state should always be employed; and Vaceination performed by transferring the transparent liquid directly from arm to arm. To obtain the lymph, the margin of a vesiele is to be very delicately punctured in one or two plaees; after a few moments, the lymph exudes in pellueid drops, and a little is to be taken up on the point of a lancet, and introduced slantingly into the skin of the arm, under the cuticle, until it touches the cutis. It should be retained there for a few seconds, and gently moved, that the lymph may descend to the bottom of the puncture. If a drop of blood oozes out, lest this should have washed off the lymph, it should be wiped away, and a little more lymph again introduced. This operation is usually performed with a common lancet: but one whieh

is fissured by a longitudinal slit, like a writing pen, succeeds rather better. The fluted needle employed in France, termed l'aiguille canellée, is a worse instrument than a lancet. But, whatever instrument is employed, if the operation is performed adroitly, and the slightest portion of vaccine lymph is left in contact with the living fibres, it rarely fails. Lancets whose points are well coated with dried lymph, succeed nearly equally well, provided they have not been kept more than two days. Beyond that time the lymph is apt to rust the lancet, and the operation to fail. When pointed quills or bits of ivory are well and repeatedly moistened with lymph, they preserve the virtues of the Vaccine for a long time. They are more certain, however, the more recent; but when wrapt in lint, and secured from air, heat, and moisture, they have sometimes continued efficacious for several months. In using these points the operation is more tedious; and if the subject is an irritable child, a good deal of impatience is often expressed. For it is requisite first to introduce the lancet under the cuticle, raising the superficies of the cutis. The blood, if any oozes out, is to be wiped away, and the vaccine point is then to be introduced into the puncture, and held and moved about for above half a minute. In withdrawing it, the flat surface should be

pressed against the cutis, that the dissolved lymph may be left in the wound; and the point should also be wiped upon the puncture.

Surgeons who are careless, or who lack dexterity, are often foiled in their attempts to vaccinate with these points; and frequently charge them with the fault. On these occasions the points, not having a fair trial, are seldom able to prove their innocence. Once, however, a country practitioner had thrice obtained charges of dried lymph from the National Vaccine Establishment, to vaccinate the child of a neighbouring squire. When they all failed, he swore that the points were good for nothing, and had certainly been prepared by some negligent blockhead. The squire, who was a quiet observing man, took a pinch of snuff and said nothing; but he privately put aside one of the points out of the last packet. As soon as the surgeon was gone, he took out a lancet which he kept in his pocket-book for emergencies, and resolved to try to vaccinate his child himself with the secreted point. The squire implicitly followed the printed rules, and carefully avoided the method he had seen to fail; and in due time the part inflamed. Being ignorant of what ought to follow, he sent again for the surgeon, to whom he owned his having made a bungling attempt at Vaccination; and that he wished for his opinion upon the consequence. While he

was speaking, the practitioner maintained a supercilious, unconcerned air; but when the arm was displayed, he started, and the crimson areola was reflected on his countenance.

There are several other methods in use for preserving vaccine lymph. A drop is sometimes inclosed between two bits of square glass: or it may be deposited in a small cavity, hollowed out of the centre of a piece of ground glass, and covered accurately with a flat piece of the same size. Lymph desiccated on glass is brought to a proper state for use, by mixing it up with a particle of cold water by the point of a lancet.

Vaccine crusts also, when powdered and triturated with cold water, are often efficacious: but it is advisable, that the puncture should be larger, or rather that a very small superficial incision should be made, and after the bleeding has ceased, abundance of the ropy solution should be inserted. Crusts have been transported to the tropical climates, and kept for many months, without losing their properties. Ingenious methods have also been devised for attracting the lymph into small capillary glass tubes, and sealing them hermetically. By this means the lymph has been found liquid, and efficacious, after being transported across the Atlantic.

These are the chief methods in use for preserving lymph; and as all occasionally succeed,

each has its partisans; and as all frequently fail, each has its enemies. But whatever means the surgeon employs to excite the infection, it behoves him to watch the progress of the vesicles: if these are regular, the specific power, that of preventing the Small Pox, always remains the same.

The election of proper vesicles from which alone lymph should be taken, is a consideration equally important with the methods of preserving it. For experienced and observing surgeons have sometimes perceived a tendency in vesicles to degenerate in several ways; and that the lymph of these degenerated vesicles produces others either of a similar kind, or which deviate further from the character of the perfect species.

Thus, in some, the inflammation is too slight, the vesicles too small; they finish their course too soon; no areola, or a very small one, forms, and the mark becomes faint or imperceptible. In others, the reverse is the case: the inflammation is premature, it rises to excess, the vesicles become large, pointed, and purulent; and finish by an amber-coloured scab, or an ulcer. On these occasions the mark which is left, is not the slight, superficial, indented impression of the true Vaccine; but a white, shining, strong-marked cicatrix; like that pro-

duced by variolous inoculation, or by a suppurating wound.

This kind of cicatrix has been remarked in many of those cases where the Small Pox occurred after Vaccination; and the displeased mothers have declared with anger, that their children certainly had the Vaccine properly, as their arms were very sore at the time, and a strong distinct scar remained.

Irregular or spurious vesicles, of the above descriptions, either afford no security against the Small Pox, or an imperfect one: and as they are nevertheless infectious, the mischief resulting from them has sometimes been extensive. An occurrence of this sort took place at Geneva and at Ceylon, upon the introduction of Vaccination, as has been related. The same circumstance happened at the island of Antigua, and several negroes were lost. Examples of a similar kind might be given in this country; and also of some suspicious accidents, where a number of persons in particular districts, had been vaccinated near the same period, all of whom afterwards contracted a mitigated Small Pox.

In fine, the occasional degeneration of the vaccine vesicle is an admitted fact among the experienced; and whenever it occurs, the lymph from that defective source ought no longer to

be employed; but changed for another, where the vesicles have continued regular. It has not hitherto been requisite to recur to the original source of the infection on the teats of cows; as the pure vaccine continues, after passing through a series of human bodies for eighteen years, to produce exactly the same effects as at first.

Two causes have been assigned for the occasional degeneration of the Vaccine.

One is, that the lymph was corrupted by keeping: and the other, that the secretion had become impure, from some distempered action in particular children.

With regard to the corruption of lymph, when carelessly or too long kept, it is generally found that such lymph is effete, and produces no effect whatever: but should it excite some irritation and even suppuration, the matter is not likely to be infectious. It therefore seems more probable, that the principal and perhaps the sole cause of the irregular Vaccine, is impure lymph, proceeding from the vesicles being irritated by accidental violence, or their action disturbed by some distemper in certain children. Cutaneous disorders are those which are chiefly suspected of altering the specific properties of the Vaccine: but, instead of verifying this by a series of direct experiments, I have always shunned vaccinating from doubtful vesicles, or unhealthy children.

This speculative point may in time, by fortuitous events, be fully ascertained: but the practical surgeon, who is employed to use the most efficient means for preserving those confided to his care from the Small Pox, can only perform his duty well, by vaccinating with the lymph of a vesicle correctly regular.

The next consideration is the operation itself.

For some years after the introduction of Vaccination, the ordinary practice was to make only one puncture: and when the surgeon or others wanted vaccine lymph, the single vesicle was punctured without hesitation, and often drained repeatedly during its progress, of the vaccine fluid. But it was not long before it was observed, that a few of the vaccinated subsequently contracted the Small Pox, though in a mild degree. This raised a suspicion in the profession, that in some peculiar habits the Vaccine might act locally, without effecting that change upon the constitution which was wanted.

This apprehension excited the early solicitude of that most intelligent surgeon John Pearson *, who remarked, that " since the Vaccine

* On Vaccine Inoculation, by Robert Willan, M. D. F. R. S. &c. Vide Appendix, p. xii. General Observations, &c. by John Pearson, F. R. S. Esq. Surgeon to the Lock Hospital, &c. 1805.

" produced but little disorder of the constitu-
" tion, and is not attended by an eruption on
" any part of the body, except that to which
" the infectious fluid is applied, it would be
" very desirable to have some criterion, by
" which we could be assured that the vacci-
" nated person has undergone that inexplicable
" change which secures him against the Small
" Pox.

" In the early part of the year 1801, I as-
" certained, that if a second inoculation with
" vaccine fluid be performed on the sixth or
" seventh day after the first, a pustule will arise,
" which proceeds in the usual manner, until
" the efflorescence appears round the pustule
" produced by the first inoculation; and that, as
" soon as this takes place, the second pustule
" begins to fade, and two or three days after-
" wards, disappears altogether. On mentioning
" this as a test of the specific action of vaccine
" fluid on the constitution, it was suggested,
" that a proposal of this kind might diminish
" the confidence of the public in the new inocu-
" lation. I acquiesced in the objection, and did
" not attempt to introduce this new mode of
" practice."

The forbearance of Mr. Pearson at that critical period was much approved of by Dr. Jenner; and it was remarked in a tract written by

Dr. Fraser *, that Mr. Pearson, "like a true phi-"lanthropist, was unwilling to offer any impedi-"ment to the progress of so beneficial a disco-"very."

It is singular, that in the same year Mr. Bryce †, a respectable surgeon at Edinburgh, also made experiments similar to those made by Mr. Pearson. Each were unquestionably independent of the other; and Mr. Bryce published his in the year 1803, conceiving that they would convey useful information.

This gentleman, indeed, tried the effect of revaccination during every period of the progress of a vaccine vesicle. He noticed, that, when the first operation succeeded, the inflammation excited by the second was accelerated; and, as soon as the primary vesicle acquired the areola, the second, however small it might be, also acquired a proportional areola, and both desiccated together.

Mr. Bryce, like Mr. Pearson, observed that this peculiarity of the second vesicle proceeded from the influence of the first; and he concluded that it might be relied upon as a sure test of the constitution being properly influenced, and secured from the Small Pox in future.

* Observations on Vaccine Inoculation. By Henry Fraser, M. D. &c. 1805. p. 25.

† Practical Observations on the Inoculation of Cow Pox, &c. By James Bryce, F. R. S. Edin. &c. &c. 1802.

Upon this opinion he founded a peculiar practice.

He advised that only one original vesicle should be excited; and on the fifth or sixth day this was directed to be punctured, and the patient to be revaccinated on a fresh place with a little of his own lymph.

If the first vesicle should then proceed regularly to the termination, and should the second be accelerated, acquire an areola, and desiccate at the same time with the first, the Vaccination was to be considered complete. But should these events not follow, it was recommended to repeat the operation until the proper test was obtained; or until the surgeon was satisfied, that the constitution resisted the further action of the Vaccine.

This plan was admired for its subtlety; and when our acquaintance with the Vaccine was new, it appeared both refined and solid. But further experience has taught us, that, by this method of operating, there is great risk of imperfect Vaccination.

Mr. Dunning, of Plymouth *, first publicly announced the danger of trusting to a single

* Further Observations on the Practice of Vaccination. By R. Dunning. Plymouth Dock, 1805.

Sir Richard Croft, of London, entertained a similar opinion, and urged it in practice, but never published.

vesicle, which had been punctured or ruptured, and drained of its lymph. Such an occurrence, in his opinion, often prevented complete Vaccination, and left the patient, "if originally of a "high variolous susceptibility," still liable to be infected with the Small Pox.

The prudence of the warning given by this very judicious surgeon has been fully confirmed since, though, when announced, it was little regarded; for, the notion of complete and incomplete, or perfect and imperfect Vaccination, was generally considered as chimerical. This, however, was originally the doctrine of Dr. Jenner, and multiplied facts have proved that it is well-founded.

The analogy between the Small Pox and the Vaccine has been shown to be close in every other point; and even in this there appears to be a coincidence.

Dr. George Fordyce was a distinguished teacher of medicine, and a close observer of the phenomena of diseases. He entertained an opinion, deduced from a number of experiments made fifty years ago*, that the Small Pox became more severe, and the constitution was more vio-

* Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge. London, 1793. Observations on the Small Pox, by George Fordyce, M. D. F. R. S.

lently affected, when inoculation was performed by several, and by deep punctures, than when it was done by a single superficial touch of the lancet. And, as the danger of a severe attack of Small Pox was always imminent, he advised the adoption of the latter mode.

The experiments, together with the conclusion drawn by the discerning and unbiassed mind of George Fordyce, upon the practice of inoculation, correspond precisely with facts observed, and deductions made, respecting Vaccination. But as the great danger in inoculation is the exciting a virulent attack, and the only risk in Vaccination is the occasioning too slight an effect, the practice in the latter ought to be the reverse of that which Fordyce counselled in the former operation.

In Vaccination, the governing principle which ought always to influence the surgeon, is to infect his patient most thoroughly with the virus. Little is to be feared from any excess of the vaccine fever; but an imperfect constitutional infection may produce a false security, and diminish or frustrate the benefit expected from the operation.

But in this business, as in others, the best practice was, perhaps, found out more by chance than by reason. For, in consequence of the immense demand made upon the National Vaccine Establishment for lymph, it became requi-

site to excite on each patient a number of vesicles; and the success which has followed is a decisive motive for adopting that practice.

As a general rule, it may be advisable to make two punctures in each arm: and when this is properly done, three vesicles at least will commonly arise, and if four are excited, it is never to be regretted.

If only two vesicles arise, neither should be opened or disturbed; and if the Vaccine proceeds regularly to the end, the Vaccination may be considered complete.

When three or more vesicles have been excited, lymph may be taken from this subject. But it is prudent always to leave two complete vesicles to pass through their course untouched.

Should an infant be so remarkably feeble, that any apprehension is entertained from the inflammation of four vesicles, the rule may be modified at the discretion of the surgeon; for the prudent will not only avoid the perils proceeding from negligence and cold indifference, but also eschew the practice of a most zealous clergyman of the Methodist persuasion whom I once saw operate.

This worthy man grasped his lancet firmly, but not after the fashion of surgeons. He continued alternately taking lymph from one infant, inserting it into another, and expounding his doctrine. A moment's pause occurring

in his discourse, I seized the opportunity, and, to stop a work of supervaccination, asked, "How many punctures he deemed necessary?" He proceeded with fluency, "So innocent is "the lymph, so transitory its workings, and so "lasting its effect, that be assured you cannot "pour too much into the flesh." In pronouncing these words, he impressed the epithets on his hearers with an elevation of the voice, and on the child with a depression of the lancet, who shrieked at each gesticulation. Yet the mother, who would have been infuriate, had a surgeon extorted such screams, looked quite placidly at her revered pastor; being inwardly convinced, that all the pains taken and given by him, would in some mysterious way do good to her suckling. As surgeons cannot expect to meet with the same indulgence, they are recommended to be more merciful in their mode of operating.

In attending to the progress of the vesicles, an accurate observer will remark some difference in every individual case; but if the specific marks of the Vaccine continue to the end, all lesser variations are unimportant.

Thus the infection sometimes lies dormant for several days before the inflammation commences; some of the vesicles in the same person are later or smaller than others, yet all terminate nearly at the same period. The vesicles vary in size and turgescency: when very

turgid, the cuticle is apt to yield, and some of the lymph to escape. The appearance of the areola is also very various. In some cases it does not exceed an inch in diameter, and the colour is a light red; which fades away the second day. In others the colour is bright crimson, which extends nearly the whole length of the arm, and continues for several days. And the crusts are sometimes brown, and drop off in a fortnight; while on other occasions they become almost black, and adhere till near the fourth week. These varieties in the regular vesicle seem to depend upon the temperament of the patient, or upon his state of health, and do not impede the specific property of the Vaccine.

But when only one vesicle has been excited, although a regular one; or when more have arisen, if they have all been opened, ruptured, or injured by violence, it is imprudent to confide in them: and should the vesicles be all remarkably small, with very little fluid for absorption, and desiccate earlier than the full period; or should no areola, or an imperfect one, be formed, doubts should be entertained of the constitution being thoroughly affected. And lastly, should the inflammation take place with unusual rapidity, and the vesicles assume the appearance of a tetter, or acquire indented edges, become conical and purulent, and terminate either with yellow

amber-coloured scabs, or in ulceration, the disease is then to be considered as irregular or spurious, and no dependence is to be placed upon it.

The treatment, which in other medical cases is the chief consideration, is in the regular Vaccine the least; as the sole intention is, that the infection should complete its specific effect. The vesicles are therefore to be permitted to rise spontaneously to their full state of turgescency; and no check should be given by refrigerants to the inflammation, absorption, or desiccation. Neither should stimulants be employed, which might over-excite or change the proper action. All interference being unfit, there only remains that which is often the last refinement of medical practice, to do nothing. In many cases, however, the pressing solicitude of mothers compels the vaccinator to disorder repeatedly the tender bowels of infants, by purging off their wholesome aliments: for it is impossible to purge any injurious relics of the Vaccine. Yet in some very rare exceptions, a slight deviation from the negative treatment is admissible. The local inflammation in a peculiarly irritable habit, or from accidental injury, might become excessive: and the symptoms of fever might possibly run high. Should these occurrences happen, they ought certainly to be remedied. The application of cold water, or water

with a little vinegar, or acetite of lead, may be used to restrain the inflammation. Warm applications and poultices of every kind, by hindering the scabbing, are usually injurious. Even ointments, for the same reason, are apt to do harm in the early stage: but should an ulcer form, they are sometimes of use to heal it up.

As a simple puncture with a clean instrument has in some distempered habits induced an alarming erysipelas, such a circumstance may happen, and has followed a puncture from a vaccinated lancet. When this occurs, the remedies, both local and constitutional, will depend upon the symptoms, and ought to be conformable to the treatment of erysipelatous inflammation, when arising from other causes.

The symptomatic fever of the regular Vaccine very seldom exceeds the due bounds; but if it should, as it is usually of the inflammatory kind, it may be mitigated by aperient medicines: but if the symptoms should mark an opposite disposition, the remedies ought to be adapted to the indications. It can hardly be requisite to dwell upon the treatment of contingencies that are barely possible; but a much more important consideration is, what measure ought to be pursued, when there is reason to suspect that the Vaccine may not have excited the requisite effect upon the constitution. Upon the least suspicion of this, it was recommended

by Dr. Jenner, to revaccinate; and when this is done effectually, it gives the fullest security against the future invasion of Small Pox. For no example, perhaps, can be quoted of a person who had been properly tested, having afterwards contracted that disease.

When the irregularity of the vaccine vesicles appears to be caused by any indisposition in the patient, it is advisable to postpone the test until the complaint is cured. But otherwise it may be employed without delay; and, as the risk in revaccinating is even less than in the first operation, it ought to be done in the same efficient manner, with recent lymph, if it can be procured, and with two punctures in each arm. Some of the effects which follow testing are unexpected. In persons on whom the primary Vaccination had either failed altogether, or had not acted fully upon the constitution, the test may be expected to excite regular vesicles in the usual form. But where the original operation had been efficacious, instead of vaccine vesicles, the test only raises up a devious inflammation, which varies in extent and duration in different individuals. It is singular that this inflammation usually commences sooner, and for two or three days is more violent, than in primary Vaccination. But this tumult generally subsides, and vanishes after the third or fourth day. In other instances it advances, and a

diminutive vesicle, or pustule, with sometimes a little areola, forms: which commonly desiccates before the sixth or seventh day. These appearances indicate that the original Vaccination had prevented the specific effects of the second, and would likewise prevent the Small Pox. The effects of the test in some rare cases, so nearly resemble vaccine vesicles, as to raise doubts whether the primary Vaccination had been effectual or not; and the more so, as some few persons are susceptible of the Vaccine twice. Besides, when it has been irregular or interrupted, the constitution has sometimes appeared to have been partially protected. In such cases the testing may have been useful. Should no visible inflammation be excited by the test, it is unsatisfactory, and therefore ought to be repeated. And if it again fails, a trial ought to be made at a future period, when the habit of body may be in a different state.

The above instructions are few in number, and easily followed by whoever has the slightest tincture of medical knowledge; yet their observance is of more real utility than any other point of practice. And, as it is of the greatest importance to multiply Vaccinations; it is desirable that as many persons as possible should be engaged in this work. Unfortunately, they are in some degree limited by the professional decorum retained between different classes of

medical men ; though this ought always to be slighted, when the public good is concerned. No delicacy should inhibit physicians, and no regard should be paid to the monopoly of surgeons; but every medical man, of whatever rank, degree, or order, should vaccinate as many persons as possible. Those especially who attend women in childbed ought to add to their care of the mothers at so interesting a moment, that of preserving the fruit of the womb from being cut off by the only disease which it is in their power to prevent. And as the charge of women of inferior condition always devolves upon midwives, they also ought to be instructed in Vaccination, which is much easier learnt than their other duties. By their agency the rising swarms of infants might be secured from the Small Pox, and a moderate remuneration would both secure them as proselytes to the new doctrine, and render them to the wives of labourers and peasants persuasive as well as loquacious preachers. The fear of mistakes, which they might commit, ought not to hinder their being engaged in Vaccination; for these good women are usually selected for possessing superior shrewdness and sagacity: and in doubtful cases, they might apply to the neighbouring surgeon. It is not probable that they would make one mistake in three or four hundred cases ; which would form a slight inconvenience,

when compared with the advantage of securing all the remainder from the Small Pox. With every aid, however, universal Vaccination, which would instantly put an end to the Small Pox, cannot be looked for: but it has been exemplified in many places, that by a general encouragement of Vaccination, by preventing variolous inoculation, and by confining the infected temporarily under municipal restriction, the Small Pox can quickly be subdued. In ancient Rome, parents possessed the barbarous power of inflicting death upon their children: British parents only claim that of inflicting on them a disease, which kills a portion, and spreads an infection to those around, that till lately destroyed one tenth of the human race. Since we have lost the privilege of Roman parents, surely that of indirectly committing infanticide is not worth retaining. This is for the consideration of Legislators, who, by a moderate exertion of those powers delegated to them for the public good, might in a very short time totally extinguish the Small Pox. And when this shall have been effected, not only the Vaccine, by becoming useless, will be neglected, but even the books, alas! upon the Vaccine will sink into oblivion. Perhaps, however, some fortunate tracts may be preserved on the dusty shelves of curious libraries, to unfold to future antiquaries the horrors, then hardly credible, of the variolous

pestilence, and to reveal to them the discovery of Jenner; whose name, or, in strange tongues, a sound imitating his name, is now articulated through the world, in huts, houses, and palaces, as a household word.

THE END.



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